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STRUCTURE FILE UPDATES: 15 SEP 2004 HIGHEST RN 745743-57-1  
DICTIONARY FILE UPDATES: 15 SEP 2004 HIGHEST RN 745743-57-1

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<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 12:43:30 ON 17 SEP 2004  
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FILE COVERS 1907 - 17 Sep 2004 VOL 141 ISS 13  
FILE LAST UPDATED: 16 Sep 2004 (20040916/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> D QUE

L10

STR 1

5  
O  
|||  
CH2-C---C---O  
1 2 3 4

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM

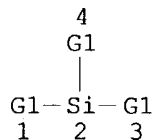
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L11 STR 2



O—Ak  
@5 6

VAR G1=AK/5  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L15 STR 3

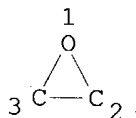


NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L18 STR 4



NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RSPEC I

NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L19 STR 5

O—Ak—O  
1 2 3

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 3

*285 polymers from  
structure queries 1 and 2 and  
and (4 or 5) 3*

STEREO ATTRIBUTES: NONE

L21 285 SEA FILE=REGISTRY SSS FUL L10 AND L11 AND L15 AND (L18 OR L19)  
L22 125 SEA FILE=HCAPLUS ABB=ON L21  
L24 62 SEA FILE=HCAPLUS ABB=ON L22 AND CUR?  
L25 8 SEA FILE=HCAPLUS ABB=ON L24 AND CUR?(6A)MOISTURE  
L26 2 SEA FILE=HCAPLUS ABB=ON L25 AND RADIAT?  
L29 1694 SEA FILE=HCAPLUS ABB=ON CUR?(6A) (MOISTURE OR WATER? OR  
AQUEOUS? OR H2O) (6A) (IRRADIAT? OR RADIAT? OR UV OR ULTRAVIOLET  
OR ULTRA(W)VIOLET OR IR OR INFRARED OR INFRA(W)RED)  
L30 1 SEA FILE=HCAPLUS ABB=ON L29 AND L22  
L31 18466 SEA FILE=HCAPLUS ABB=ON CUR?(L) (MOISTURE OR WATER? OR  
AQUEOUS? OR H2O) (L) (IRRADIAT? OR RADIAT? OR UV OR ULTRAVIOLET  
OR ULTRA(W)VIOLET OR IR OR INFRARED OR INFRA(W)RED)  
L32 8 SEA FILE=HCAPLUS ABB=ON L22 AND L31  
L33 8 SEA FILE=HCAPLUS ABB=ON L26 OR L30 OR L32

=> D L33 BIB ABS IND HITSTR 1-8

*8 CA on polymers both  
moisture & radiation  
curable*

L33 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:612132 HCAPLUS

DN 141:125137

TI Curable polymer compositions for water-repellent antisoiling coatings, and method for curing

IN Ueda, Tetsuyoshi; Takenaka, Naoki

PA Kyoeisha Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004210850	A2	20040729	JP 2002-379271	20021227
PRAI JP 2002-379271		20021227		

AB The comps. contain organopolysiloxo-containing urethane (meth)acrylate resins prepared by reaction of organic polyisocyanates, organopolysiloxo-containing alcs., and OH-containing (meth)acrylates. Thus, a composition containing a reaction product of Desmodur H (HDI), X-22-160AS (OH-terminated polysiloxane), and Light Acrylate DPE 6A (OH-containing dipentaerythritol hexaacrylate) was applied on a polycarbonate plate and irradiated with UV to give a coating with good

scratch and solvent resistance.

IC ICM C09D183-10  
ICS C09D004-02; C09D005-00; C09D175-04

CC 42-7 (Coatings, Inks, and Related Products)

ST **radiation curable** polymer coating antisoiling  
**waterproofing**; urethane acrylate polysiloxane coating scratch  
solvent resistance; HDI polysiloxane dipentaerythritol acrylate  
polyurethane coating

IT Polysiloxanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(acrylic-polyoxyalkylene-; curable polymer compns. for water-repellent  
antisoiling coatings)

IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(acrylic-polysiloxane-; curable polymer compns. for water-repellent  
antisoiling coatings)

IT Coating materials  
(antisoiling; curable polymer compns. for water-repellent antisoiling  
coatings)

IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polycarbosilane-polyoxyalkylene-polysiloxane-, acrylic; curable  
polymer compns. for water-repellent antisoiling coatings)

IT Polysiloxanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polycarbosilane-polyoxyalkylene-polyurethane-, acrylic; curable  
polymer compns. for water-repellent antisoiling coatings)

IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polycarbosilane-polysiloxane-, acrylic; curable polymer compns. for  
water-repellent antisoiling coatings)

IT Polyoxyalkylenes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polycarbosilane-polysiloxane-polyurethane-, acrylic; curable polymer  
compns. for water-repellent antisoiling coatings)

IT Polysiloxanes, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polycarbosilane-polyurethane-, acrylic; curable polymer compns. for  
water-repellent antisoiling coatings)

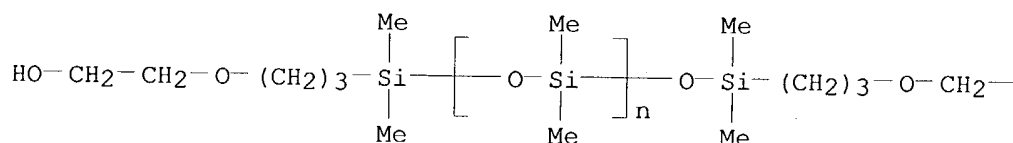
IT Polycarbosilanes  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polyoxyalkylene-polysiloxane-polyurethane-, acrylic; curable polymer  
compns. for water-repellent antisoiling coatings)

IT Polycarbosilanes  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(polysiloxane-polyurethane-, acrylic; curable polymer compns. for  
water-repellent antisoiling coatings)

IT Coating materials  
(**radiation-curable**; **curable** polymer  
compns. for **water**-repellent antisoiling coatings)

- IT Coating materials  
(scratch-resistant; curable polymer compns. for water-repellent  
antisoiling coatings)
- IT Coating materials  
(solvent-resistant; curable polymer compns. for water-repellent  
antisoiling coatings)
- IT Coating materials  
(water-resistant; curable polymer compns. for water-repellent  
antisoiling coatings)
- IT 191920-47-5DP, Poly[oxy(dimethylsilylene)],  $\alpha$ -(butyldimethylsilyl)-  
 $\omega$ -[[[3-(2-hydroxyethoxy)propyl]dimethylsilyl]oxy]-, reaction  
products with HDI and acrylates  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(Silaplane FM 0421, Silaplane FM 0411; curable polymer compns. for  
water-repellent antisoiling coatings)
- IT 822-06-0DP, HDI, reaction products with and OH-terminated polysiloxane and  
acrylates 3524-68-3DP, Light Acrylate PE 3A, reaction products with HDI,  
OH-terminated polysiloxane, and acrylates 28961-43-5DP, Light Acrylate  
TMP-3EOA, reaction products with urethane acrylates 29570-58-9DP, Light  
Acrylate DPE 6A, reaction products with polysiloxane-polyurethanes and  
acrylates 392304-90-4DP, reaction products with dipentaerythritol  
hexaacrylate, polymers 724457-38-9DP, reaction products with  
dipentaerythritol hexaacrylate, polymers **724457-39-0P**  
724457-40-3P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(curable polymer compns. for water-repellent antisoiling coatings)
- IT **724457-39-0P**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(curable polymer compns. for water-repellent antisoiling coatings)
- RN 724457-39-0 HCAPLUS
- CN 2-Propenoic acid, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-  
propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-  
propanediyl ester, polymer with 1,6-diisocyanatohexane and  
 $\alpha$ -[[[3-(2-hydroxyethoxy)propyl]dimethylsilyl]- $\omega$ -[[[3-(2-  
hydroxyethoxy)propyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] (9CI)  
(CA INDEX NAME)
- CM 1
- CRN 156327-07-0
- CMF (C2 H6 O Si)<sub>n</sub> C14 H34 O5 Si2
- CCI PMS

PAGE 1-A

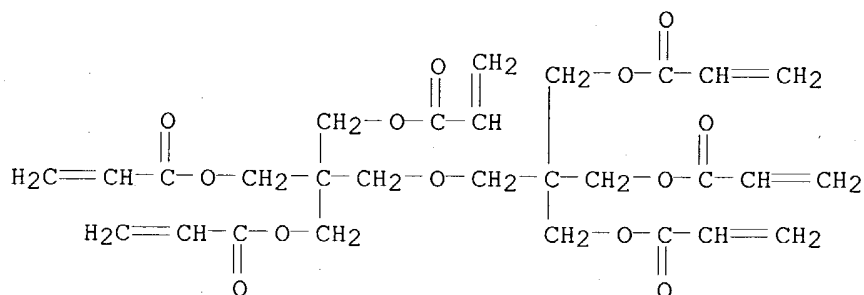


PAGE 1-B

—CH<sub>2</sub>—OH

CM 2

CRN 29570-58-9  
CMF C28 H34 O13



CM 3

CRN 822-06-0  
CMF C8 H12 N2 O2

OCN—(CH<sub>2</sub>)<sub>6</sub>—NCO

L33 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:1007075 HCAPLUS  
DN 140:43577  
TI Process for multi-layer coating of substrates  
IN Wissing, Klaus; Flosbach, Carmen; Taennert, Klaus; Matten, Stefanie; Reis, Oliver; Rekowski, Volker  
PA E. I. Du Pont de Nemours & Co., USA  
SO PCT Int. Appl., 24 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003106578	A1	20031224	WO 2003-US18604	20030610
	W: CA, JP				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRAI	US 2002-171207	A	20020613		
AB	The invention relates to a process for multi-layer coating of substrates,				

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

in particular vehicles and vehicle parts, by applying two or more coating layers and **curing** of the applied coatings, wherein  $\geq 1$  of the coating layers is produced from a coating composition which comprises a binder system with free-radically polymerizable olefinic double bonds and with hydrolysable alkoxy silane groups, wherein the resin solids content of the coating composition exhibits an equivalent weight of C:C double bonds of 200-2000,

preferably of 300-1500, and a content of silicon bound in alkoxy silane groups of 1-10 wt%, preferably of 1-7 wt%, especially preferably of 2-6 wt%, and

wherein **curing** of the coating layer, of which there is at least one, proceeds by free-radical polymerization of the C:C double bonds on **irradiation** with high energy **radiation** and by the formation of siloxane bridges under the action of **moisture**. Thus, hexamethylene diisocyanate biuret (Tolonate HDB), neopentyl glycol, butanediol monoacrylate, and aminoalkoxy silane (Silquest A 1170) were polymerized to give a alkoxy silane-functional urethane acrylate clear coating composition

- IC ICM C09D175-16
- ICS C08J003-24; C09D201-10
- CC 42-2 (Coatings, Inks, and Related Products)
- ST polyurethane polysiloxane acrylate neopentyl glycol HMDI aminoalkoxy silane vehicle coating
- IT Polysiloxanes, uses
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (Byk 341, leveling agent; process for multi-layer coating of substrates)
- IT Coating materials
  - (UV-**curable**; process for multi-layer coating of substrates)
- IT Polysiloxanes, uses
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (acrylic, Tego Rad 2100, leveling agent; process for multi-layer coating of substrates)
- IT Polyurethanes, uses
  - RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
  - (acrylic-polysiloxane-; process for multi-layer coating of substrates)
- IT Polysiloxanes, uses
  - RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
  - (acrylic-polyurethane-; process for multi-layer coating of substrates)
- IT Coating materials
  - (chemical- and weather-resistant; process for multi-layer coating of substrates)
- IT Coating materials
  - (**moisture-curable**; process for multi-layer coating of substrates)
- IT Coating process
  - (process for multi-layer coating of substrates)
- IT Coating materials
  - (scratch-resistant; process for multi-layer coating of substrates)
- IT 82493-14-9, Sanduvor 3206
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (UV absorber; process for multi-layer coating of substrates)
- IT 41556-26-7, Tinuvin 292 106917-31-1, Sanduvor 3058
  - RL: MOA (Modifier or additive use); USES (Uses)
  - (light stabilizer; process for multi-layer coating of substrates)
- IT 77-58-7, Dibutyltin dilaurate 95-71-6, Methylhydroquinone 104-15-4, p-Toluenesulfonic acid, uses 1330-20-7, Xylene, uses 7473-98-5,

Darocur 1173 135843-71-9, Nacure 2500 162881-26-7, Irgacure 819

RL: CAT (Catalyst use); USES (Uses)

(process for multi-layer coating of substrates)

IT 192662-79-6, Tinuvin 400

RL: MOA (Modifier or additive use); USES (Uses)

(process for multi-layer coating of substrates)

IT 636590-30-2 637011-91-7 637011-92-8

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(process for multi-layer coating of substrates)

IT 636590-30-2 637011-91-7 637011-92-8

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(process for multi-layer coating of substrates)

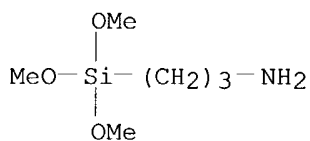
RN 636590-30-2 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 2-hydroxyethyl 2-propenoate, 3-(trimethoxysilyl)-1-propanamine and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide (9CI) (CA INDEX NAME)

CM 1

CRN 13822-56-5

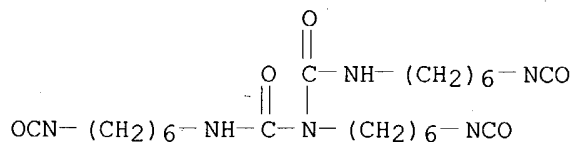
CMF C6 H17 N O3 Si



CM 2

CRN 4035-89-6

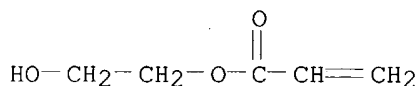
CMF C23 H38 N6 O5



CM 3

CRN 818-61-1

CMF C5 H8 O3

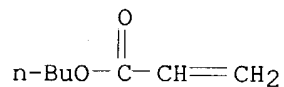




CM 4

CRN 141-32-2

CMF C7 H12 O2



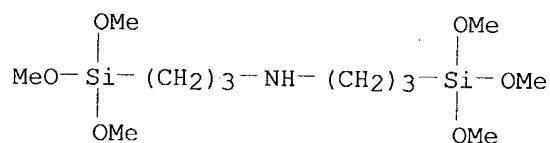
RN 637011-91-7 HCAPLUS

CN 2-Propenoic acid, 4-hydroxybutyl ester, polymer with 2,2-dimethyl-1,3-propanediol, 3-(trimethoxysilyl)-N-[3-(trimethoxysilyl)propyl]-1-propanamine and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide (9CI) (CA INDEX NAME)

CM 1

CRN 82985-35-1

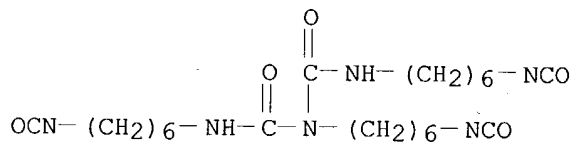
CMF C12 H31 N O6 Si2



CM 2

CRN 4035-89-6

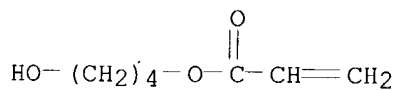
CMF C23 H38 N6 O5



CM 3

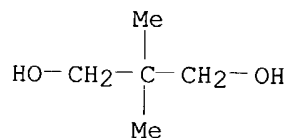
CRN 2478-10-6

CMF C7 H12 O3



CM 4

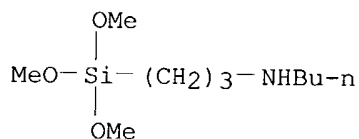
CRN 126-30-7  
CMF C5 H12 O2



RN 637011-92-8 HCAPLUS  
CN 2-Propenoic acid, 4-hydroxybutyl ester, polymer with 2,2-dimethyl-1,3-propanediol, N-[3-(trimethoxysilyl)propyl]-1-butanamine and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide (9CI) (CA INDEX NAME)

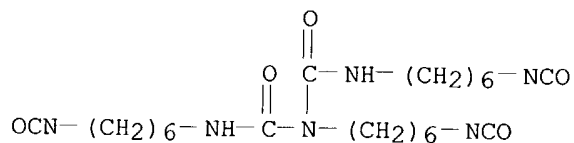
CM 1

CRN 31024-56-3  
CMF C10 H25 N O3 Si



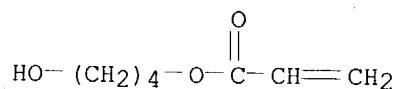
CM 2

CRN 4035-89-6  
CMF C23 H38 N6 O5



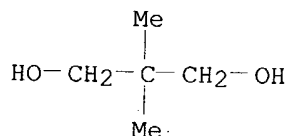
CM 3

CRN 2478-10-6  
CMF C7 H12 O3



CM 4

CRN 126-30-7  
CMF C5 H12 O2



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:1006859 HCAPLUS  
DN 140:43600  
TI Polyurethane-polysiloxane-acrylate multilayered coating composition for vehicles  
IN Flosbach, Carmen; Wissing, Klaus; Fey, Thomas  
PA E. I. Du Pont de Nemours & Co., USA  
SO PCT Int. Appl., 23 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003106055	A1	20031224	WO 2003-US18606	20030610
	W: CA, JP				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRAI	US 2002-171206	A	20020613		
AB	Coating compns. useful for vehicles and vehicle parts, are applying on a substrate two or more layers and <b>curing</b> , wherein at least one of the coating layers is produced from a coating composition comprising a polyurethane binder with free-radically polymerizable olefinic double bonds in the form of (meth)acryloyl groups and with hydrolyzable alkoxy silane groups, wherein the resin solids content of the coating composition exhibits an equivalent weight of C=C double bonds of 200-2000, preferably of 300-1500, and a content of silicon bound in alkoxy silane groups of 1-10 weight%. The coating layer containing free-radical polymerization C=C double bonds can be <b>cured</b> of by <b>irradiation</b> with high energy <b>radiation</b> and by the formation of siloxane bridges under the action of <b>moisture</b> . Thus, hexamethylene diisocyanate biuret (Tolonate HDB), neopentyl glycol, and aminoalkoxy silane (Silquest A 1170) were polymerized to receive a alkoxy silane-functional urethane acrylate clear coating composition				
IC	ICM B05D007-00				
	ICS C07F007-18; C08F030-08; C08F290-14				
CC	42-10 (Coatings, Inks, and Related Products)				
ST	polyurethane polysiloxane acrylate neopentyl glycol HMDI aminoalkoxy silane coating vehicle				
IT	Coating materials (UV- <b>curable</b> ; polyurethane-polysiloxane-acrylic coating composition for vehicles)				
IT	Polysiloxanes, uses				

RL: MOA (Modifier or additive use); USES (Uses)  
 (acrylic, Tego Rad 2100, leveling agent; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Transparent materials  
 (coatings; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Polysiloxanes, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (leveling agent, Byk 341; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Coating materials  
 (**moisture-curable**; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Polysiloxanes, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (polyurethane-, unsatd.; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Binders  
 Primers (paints)  
 (polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Polyurethanes, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (siloxane-, unsatd.; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Coating materials  
 (topcoats; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT Coating materials  
 Sealing compositions  
 (transparent; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT 82493-14-9, Sanduvor 3206 192662-79-6, Tinuvin 400  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV absorber; polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT 77-58-7, Dibutyltin dilaurate 95-71-6, Methylhydroquinone 104-15-4, p-Toluenesulfonic acid, uses 1330-20-7, Xylene, uses 7473-98-5, Darocur 1173 135843-71-9, Nacure 2500 162881-26-7, Irgacure 819  
 RL: CAT (Catalyst use); USES (Uses)  
 (polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT 41556-26-7, Tinuvin 292 106917-31-1, Sanduvor 3058  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyurethane-polysiloxane-acrylic coating composition for vehicles)

IT 636590-28-8 636590-29-9 **636590-30-2**  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (polyurethane-polysiloxane-acrylic coating composition for vehicles)

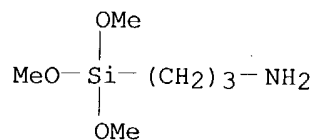
IT **636590-30-2**  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (polyurethane-polysiloxane-acrylic coating composition for vehicles)

RN 636590-30-2 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 2-hydroxyethyl 2-propenoate, 3-(trimethoxysilyl)-1-propanamine and N,N',2-tris(6-isocyanatohexyl)imidodicarbonic diamide (9CI) (CA INDEX NAME)

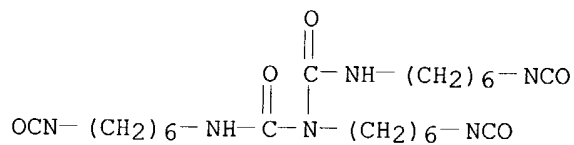
CM 1

CRN 13822-56-5  
CMF C6 H17 N O3 Si



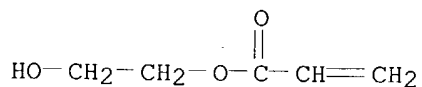
CM 2

CRN 4035-89-6  
CMF C23 H38 N6 O5



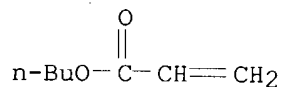
CM 3

CRN 818-61-1  
CMF C5 H8 O3



CM 4

CRN 141-32-2  
CMF C7 H12 O2



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:696340 HCAPLUS  
DN 139:231600  
TI Photochromic optical article having multiple protective layers and  
manufacture  
IN Blackburn, William P.; Levesque, Michael B.; Seybert, Kevin W.; Conklin,

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

Jeanine A.; Gruchacz, Nancyanne  
 PA USA  
 SO U.S. Pat. Appl. Publ., 30 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003165686	A1	20030904	US 2002-229773	20020828
	WO 2003058300	A1	20030717	WO 2002-US35906	20021108

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-344167P P 20011227  
 US 2002-229773 A 20020828

AB A photochromic plastic article, e.g., an ophthalmic photochromic article, such as a lens, includes (1) a polymeric substrate, such as a thermoset or thermoplastic substrate, (2) a photochromic polymeric coating on  $\geq 1$  surface of the substrate, the photochromic polymeric coating containing a photochromic amount of  $\geq 1$  organic photochromic material, e.g., spirooxazine, naphthopyran and/or fulgide, and (3) a **radiation-cured**, acrylate-based film coherently attached to the photochromic coating, the acrylate-based film being (a) resistant to removal by **aqueous** solns. of inorg. caustic, e.g., KOH, (b) compatible with organosilane-containing abrasion-resistant coating, and (c) harder than the photochromic coating. Also the photochromic article has an abrasion-resistant coating affixed to the **radiation-cured** acrylate-based film, e.g., an abrasion-resistant coating comprising an organosilane and an antireflective coating affixed to the abrasion-resistant coating.

IC ICM B32B027-36

NCL 428412000; 428423100

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42

ST protective coating photochromic plastic lens; spirooxazine photochromic plastic lens; naphthopyran photochromic plastic lens; fulgide photochromic plastic lens

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (Silvue 124, abrasion-resistant coating; coated photochromic optical article)

IT Coating materials

(abrasion-resistant; coated photochromic optical article)

IT Polyurethanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (acrylates, photochromic coating; coated photochromic optical article)

IT Antireflective films

(coated photochromic optical article)

IT Water-resistant materials

(films; coated photochromic optical article)

IT Acrylic polymers, uses

Epoxy resins, uses  
Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photochromic coating; coated photochromic optical article)

IT Coating materials  
Lenses  
(photochromic; coated photochromic optical article)

IT Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polycarbonate-, photochromic coating; coated photochromic optical article)

IT Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurea-, substrate; coated photochromic optical article)

IT Polycarbonates, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurethane-, photochromic coating; coated photochromic optical article)

IT Polyureas  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurethane-, substrate; coated photochromic optical article)

IT Polycarbonates, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(substrate; coated photochromic optical article)

IT Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(thio-, substrate; coated photochromic optical article)

IT Films  
(water-resistant; coated photochromic optical article)

IT 592507-70-5, Hi-Gard 1030  
RL: TEM (Technical or engineered material use); USES (Uses)  
(abrasion-resistant coating; coated photochromic optical article)

IT 591227-14-4P, Epon 828-SR-348-SR-350 copolymer 591227-15-5P  
591227-16-6P 591227-17-7P 591227-18-8P 591227-19-9P 591227-20-2P  
591227-21-3P 591227-22-4P 591227-23-5P **591227-24-6P**  
591227-25-7P 591227-26-8P 592507-96-5P, Armour 500-Cyracure UVR-6110  
copolymer 592507-98-7P 592508-00-4P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylate film layer; coated photochromic optical article)

IT 25656-90-0, Diethylene glycol bis(allyl carbonate) homopolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(substrate; coated photochromic optical article)

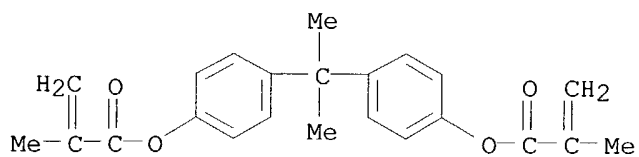
IT **591227-24-6P**  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylate film layer; coated photochromic optical article)

RN 591227-24-6 HCAPLUS

CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with 1,6-diisocyanatohexane, 1,2-ethanediyl bis(2-methyl-2-propenoate), 2-hydroxyethyl 2-propenoate, (1-methylethylidene)di-4,1-phenylene bis(2-methyl-2-propenoate) and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

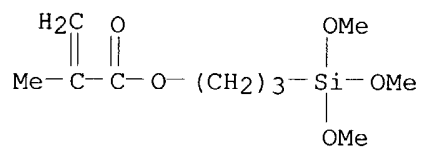
CRN 3253-39-2  
CMF C23 H24 O4



CM 2

CRN 2530-85-0

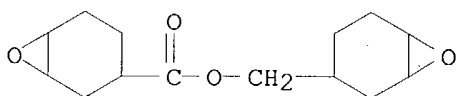
CMF C10 H20 O5 Si



CM 3

CRN 2386-87-0

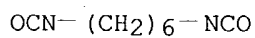
CMF C14 H20 O4



CM 4

CRN 822-06-0

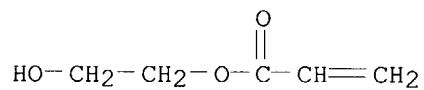
CMF C8 H12 N2 O2



CM 5

CRN 818-61-1

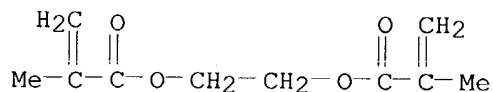
CMF C5 H8 O3



CM 6



CRN 97-90-5  
CMF C10 H14 O4



L33 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:147775 HCAPLUS

DN 136:185472

TI Urethane (meth)acrylate-modified silicone oil-containing coating compositions

IN Tokuyama, Koichi

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002060653	A2	20020226	JP 2000-250641	20000822
PRAI	JP 2000-250641		20000822		

AB Title compns., having good soil and scratch resistance useful for plastics and glass plates, contain title oils and  $\geq 3$  (meth)acryloyloxy group-containing polyfunctional (meth)acrylates. A com. Sumice Fine R 311 coating containing Sb-doped SnO<sub>2</sub>, dipentaerythritol hexaacrylate (I), cyclohexyl acrylate, N-vinylpyrrolidone, and an initiator was mixed with I, organic solvents, and HMDI-X 22-160AS copolymer pentaerythritol triacrylate reaction product (II) to form a composition containing 0.038% (based on

total solid) II, which was coated on a Sumipex E plate and **UV-cured** to form a plate showing good scratch resistance and easy oil marking removal initially and after 1 h in 80° **water**.

IC ICM C09D004-00

ICS B05D007-24

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

ST soil hot water resistance acrylic polyurethane polysiloxane hard coat

IT Polyurethanes, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic-polysiloxane-, crosslinked; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic-polyurethane-, crosslinked; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT Coating materials

(antisoiling, water-resistant; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT Oxides (inorganic), uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (particles; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT Acrylic polymers, miscellaneous  
 Plate glass  
 RL: MSC (Miscellaneous)  
 (substrates; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT **400051-25-4P**, Cyclohexyl acrylate-dipentaerythritol hexaacrylate-HMDI-pentaerythritol triacrylate-N-vinyl-2-pyrrolidone-X 22-160AS copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (crosslinked; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT 12673-86-8, Antimony tin oxide  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (particles; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT 9011-14-7, Sumipex E  
 RL: MSC (Miscellaneous)  
 (substrates; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

IT **400051-25-4P**, Cyclohexyl acrylate-dipentaerythritol hexaacrylate-HMDI-pentaerythritol triacrylate-N-vinyl-2-pyrrolidone-X 22-160AS copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (crosslinked; urethane (meth)acrylate-modified silicone-containing acrylic resin hard coats with hot water and soil resistance)

RN 400051-25-4 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with cyclohexyl 2-propenoate, 1,6-diisocyanatohexane, 1-ethenyl-2-pyrrolidinone,  $\alpha$ -[[3-(2-hydroxyethoxy)propyl]dimethylsilyl]- $\omega$ -[[[3-(2-hydroxyethoxy)propyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

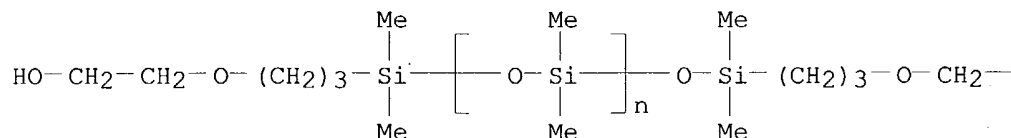
CM 1

CRN 156327-07-0

CMF (C2 H6 O Si)n C14 H34 O5 Si2

CCI PMS

PAGE 1-A



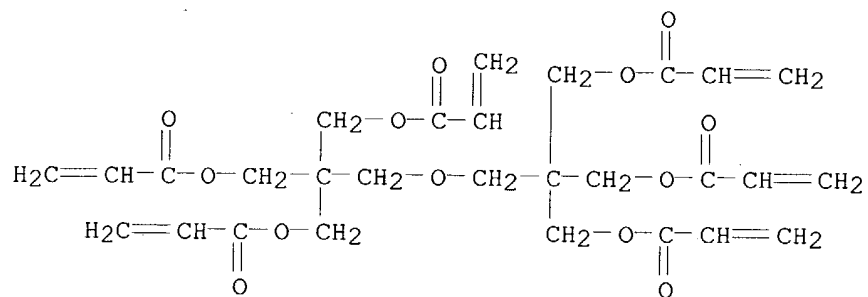
PAGE 1-B

$$-\text{CH}_2-\text{OH}$$

CM 2

CRN 29570-58-9

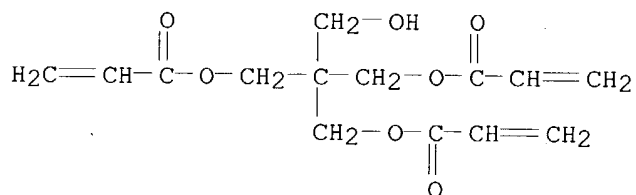
CMF C28 H34 O13



CM 3

CRN 3524-68-3

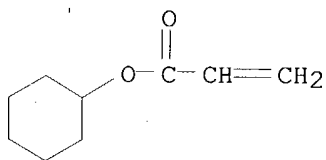
CMF C14 H18 O7



CM 4

CRN 3066-71-5

CMF C9 H14 O2



CM 5

CRN 822-06-0

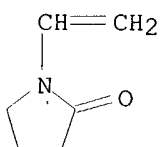
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 6

CRN 88-12-0

CMF C6 H9 N O



L33 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:69422 HCAPLUS

DN 126:90774

TI Active energy beam-curable aqueous dispersions for rapid-curing coatings and inks with excellent adhesion and chemical resistance

IN Tanaka, Shigehiro; Takase, Masanori; Hosaka, Kazuko

PA Dainippon Ink & Chemicals, Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08259888	A2	19961008	JP 1995-65903	19950324
PRAI	JP 1995-65903		19950324		

AB The title dispersions contain active energy beam-curable microgel particles containing active energy beam-sensitive double bonds and salt groups and crosslinks containing urethane or urea bonds. MPD/IPA500 polyester polyol, dimethylolpropionic acid, trimethylolpropane, IPDI, and dicyclohexylmethane-4,4'-diisocyanate were polymerized, reacted with Viscoat 214HP (hydroxy acrylic monomer), and treated with triethylamine in **water** then with A-1130 and Surfynyl AK02 to give an **aqueous** dispersion, which was then used with Irgacure to obtain a **UV-cured** coating with pencil hardness 2H, excellent MEK resistance and adhesion on aluminum.

IC ICM C09D175-16

ICS C08F299-06; C08G018-08; C08G018-40; C08G018-67; C09D005-00; C09D011-10

CC 42-10 (Coatings, Inks, and Related Products)

ST photocurable polyester polyurethane acrylic coating

IT Coating materials

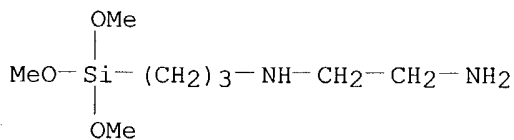
(photocurable; active energy beam-curable aqueous dispersions for rapid-curing coatings and inks with excellent adhesion and chemical

- resistance)
- IT Polyurethanes, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-, acrylic; active energy beam-curable aqueous dispersions for rapid-curing coatings and inks with excellent adhesion and chemical resistance)
- IT Acrylic polymers, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-polyurethane-; active energy beam-curable aqueous dispersions for rapid-curing coatings and inks with excellent adhesion and chemical resistance)
- IT 184974-69-4P 184974-77-4P 185077-11-6P 185077-13-8P 185077-15-0P  
 185077-17-2P 185124-49-6P **185124-50-9P** 185124-52-1P  
 185528-33-0P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (active energy beam-curable aqueous dispersions for rapid-curing coatings and inks with excellent adhesion and chemical resistance)
- IT **185124-50-9P**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (active energy beam-curable aqueous dispersions for rapid-curing coatings and inks with excellent adhesion and chemical resistance)
- RN 185124-50-9 HCAPLUS
- CN 1,3-Benzenedicarboxylic acid, polymer with 1,3-bis(isocyanatomethyl)cyclohexane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid, 3-methyl-1,5-pentanediol, 1,2,3-propanetriol mono(2-methyl-2-propenoate) and Viscoat 214HP, compd. with N,N-diethylethanamine and N-[3-(trimethoxysilyl)propyl]-1,2-ethanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 1760-24-3

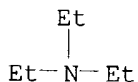
CMF C8 H22 N2 O3 Si



CM 2

CRN 121-44-8

CMF C6 H15 N



CM 3

CRN 185124-48-5

CMF (C10 H14 N2 O2 . C8 H6 O4 . C7 H12 O4 . C6 H14 O3 . C6 H14 O2 . C5 H10 O4 . Unspecified)x

CCI PMS

CM 4

CRN 184973-30-6

CMF Unspecified

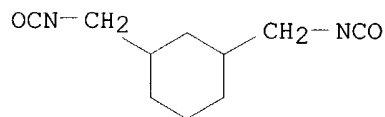
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 38661-72-2

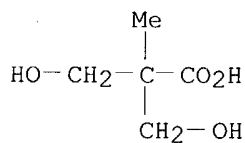
CMF C10 H14 N2 O2



CM 6

CRN 4767-03-7

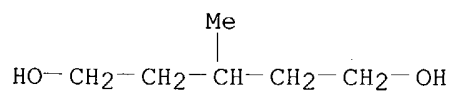
CMF C5 H10 O4



CM 7

CRN 4457-71-0

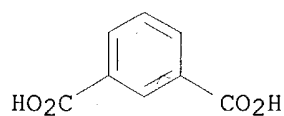
CMF C6 H14 O2



CM 8

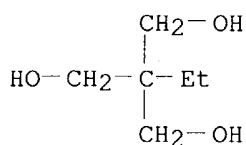
CRN 121-91-5

CMF C8 H6 O4



CM 9

CRN 77-99-6  
CMF C6 H14 O3

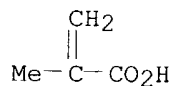


CM 10

CRN 50853-28-6  
CMF C7 H12 O4  
CCI IDS

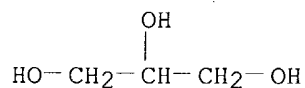
CM 11

CRN 79-41-4  
CMF C4 H6 O2



CM 12

CRN 56-81-5  
CMF C3 H8 O3



L33 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1996:123689 HCAPLUS  
DN 124:148838  
TI Acrylic polymer-isocyanate coating compositions for automobiles  
IN Kim, Jong Mun; Yoon, Sei Woong; Jeon, Tea Seong  
PA Korea Chemical Co., Ltd., S. Korea  
SO Ger. Offen., 11 pp.

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19506978	A1	19951207	DE 1995-19506978	19950228
	KR 127783	B1	19971226	KR 1994-12552	19940603
	AU 9511337	A1	19951214	AU 1995-11337	19950123
	AU 699083	B2	19981119		
PRAI	KR 1994-12552	A	19940603		

AB The title compns., with good flow, viscosity, and **curing** rates and giving coatings resisting heat, chems., solvents, and weathering, contain acrylic resins and blocked isocyanates in equivalent ratio 1:0.9-1.5. A mixture of acrylic polymer (mol. weight 5000, prepared from MMA 140, Bu methacrylate 140, styrene 140, ethylhexyl acrylate 70, acrylic acid 21, hydroxypropyl methacrylate 189, and Cl<sub>3</sub>SiCH<sub>2</sub>CH<sub>2</sub> 50 g) 500, blocked isocyanate (mol. weight 1000-2000, prepared from IPDI trimer 500, di-Et malonate 300, and polypropylene glycol 30 g) 80, flow modifier 5, UV stabilizer 20, and solvent 400 parts was sprayed on primed, galvanized steel and baked at 130° for 30 min to give a 50-µm film with 60° gloss 92 and good resistance to 36% H<sub>2</sub>SO<sub>4</sub>, H<sub>2</sub>O, gravel impact, and accelerated weathering (2000 h).

IC ICM C09D175-04

ICS C09D133-06; C08G018-80; C08G018-10; C08G018-48; C08G018-32; C08F220-10; C08F002-04; B05D007-16

ICA C08G018-73; C08G018-79; C08G018-75; C07C263-16; C07C263-18

ICI C09D133-06, C09D125-02, C09D133-14, C09D133-02, C09D143-04, C09D133-24

CC 42-7 (Coatings, Inks, and Related Products)

ST automobile coating acrylic polymer; silane deriv copolymer coating; hydroxypropyl methacrylate copolymer coating; acrylate copolymer coating; acrylic acid copolymer coating; crosslinker acrylic polymer coating; isocyanate blocked crosslinker coating

IT Coating materials

(acrylic polymer-isocyanate coating compns. for automobiles)

IT 173732-11-1 173732-12-2 173792-97-7 173792-98-8 **173792-99-9**  
173793-00-5

RL: TEM (Technical or engineered material use); USES (Uses)

(acrylic polymer-isocyanate coating compns. for automobiles)

IT **173792-99-9**

RL: TEM (Technical or engineered material use); USES (Uses)

(acrylic polymer-isocyanate coating compns. for automobiles)

RN 173792-99-9 HCAPLUS

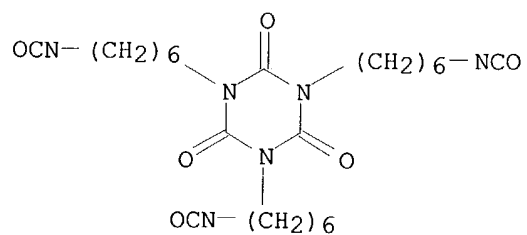
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate, ethenylbenzene, 1,2-propanediol mono-2-propenoate, 2-propenoic acid, 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate and 1,3,5-tris(6-isocyanatohexyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 3779-63-3

CMF C24 H36 N6 O6

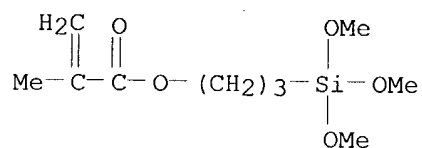




CM 2

CRN 2530-85-0

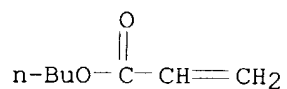
CMF C10 H20 O5 Si



CM 3

CRN 141-32-2

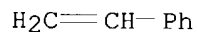
CMF C7 H12 02



CM 4

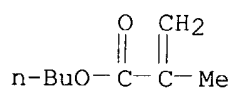
CRN 100-42-5

CMF C8 H8



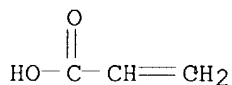
CM 5

CRN 97-88-1

CMF C8 H14 O2

CM 6

CRN 79-10-7  
CMF C3 H4 O2

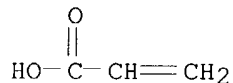


CM 7

CRN 25584-83-2  
CMF C6 H10 O3  
CCI IDS

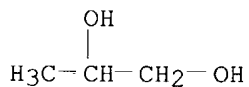
CM 8

CRN 79-10-7  
CMF C3 H4 O2



CM 9

CRN 57-55-6  
CMF C3 H8 O2



L33 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:951839 HCAPLUS

DN 124:59409

TI Antisoiling coating compositions containing polymers prepared with silsesquioxanes containing reactive groups

IN Yoshida, Masaharu; Sendai, Hideki; Ito, Minoru

PA Showa Denko Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 07238260	A2	19950912	JP 1994-56625	19940301
PRAI	JP 1994-56625		19940301		

- AB The title compns., forming flexible coatings, contain polymers prepared with silsesquioxanes containing H, C1-18 alkyl, substituted alkyl, and (un)substituted Ph groups as well as reactive groups selected from vinyl, (meth)acrylate, epoxy, OH, CO<sub>2</sub>H, amino, and N-hydroxymethyl or N-alkoxymethyl amide groups. A reaction product prepared from  $\gamma$ -methacryloxypropyltrimethoxysilane 0.3, MeSi(OEt)<sub>3</sub> 0.6, and PhSi(OMe)<sub>3</sub> 0.1 mol in **aqueous** HCl at 70° was copolymd. with Me methacrylate, Bu acrylate, methacrylic acid, and 2-hydroxyethyl methacrylate in BuOAc-PhMe, and the copolymer was mixed with a benzotriazole derivative (UV absorber) and a hindered amine (light stabilizer), diluted, sprayed on a urethane primer layer on a flexible substrate, dried, and **cured** at 100°. The coating showed cross-cut adhesion 100/100 and good soil repellency and allowed easy removal of starch and vinyl acetate resin adhesives.
- IC ICM C09D183-04  
ICS C08F299-08; C08G059-14; C09D005-00
- CC 42-10 (Coatings, Inks, and Related Products)
- ST methacrylate alkoxysilane silsesquioxane acrylic polymer soilproofing; silane silsesquioxane acrylic coating soil repellency
- IT Epoxy resins, uses  
Fluoropolymers  
Urethane polymers, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(in silsesquioxane-containing acrylic polymers for flexible soil-repellent coatings)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic, flexible soil-repellent coatings)
- IT Coating materials  
(antisoiling, silsesquioxane-containing acrylic polymers for flexible)
- IT 80-62-6DP, polymers with unsatd. silsesquioxanes and acrylic monomers  
103-11-7DP, polymers with unsatd. silsesquioxanes and acrylic monomers  
5962-67-4DP, reaction products with isocyanatoethyl methacrylate, polymers with unsatd. silsesquioxanes, Me methacrylate, and ethylhexyl acrylate  
15625-89-5DP, Trimethylolpropane triacrylate, polymers with acrylic-silsesquioxanes 30674-80-7DP, reaction products with dimethyldisiloxanediol, polymers with unsatd. silsesquioxanes, Me methacrylate, and ethylhexyl acrylate 172158-82-6DP, trimethylsilyl-terminated, polymers with trimethylolpropane triacrylate, silsesquioxane-containing 172158-83-7DP, trimethylsilyl-terminated, polymers with dimethyldisiloxanediol-isocyanatoethyl methacrylate adduct, Me methacrylate, and ethylhexyl acrylate  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(flexible soil-repellent coatings)
- IT 24937-79-9, Poly(vinylidene fluoride)  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(in silsesquioxane-containing acrylic polymers for flexible soil-repellent coatings)
- IT 172158-78-0P **172158-79-1P** 172158-80-4P **172158-81-5P**  
172158-84-8P 172158-85-9P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silsesquioxane-containing; flexible soil-repellent coatings)
- IT **172158-79-1P 172158-81-5P**  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)  
(silsesquioxane-containing; flexible soil-repellent coatings)

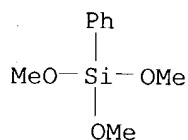
RN 172158-79-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with butyl 2-propenoate,  
1,6-diisocyanatohexane trimer, 2-hydroxyethyl 2-methyl-2-propenoate,  
methyl 2-methyl-2-propenoate, triethoxymethylsilane,  
trimethoxyphenylsilane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate.  
(9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

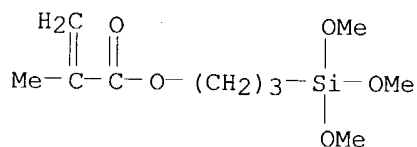
CMF C9 H14 O3 Si



CM 2

CRN 2530-85-0

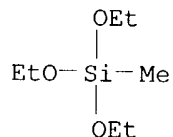
CMF C10 H20 O5 Si



CM 3

CRN 2031-67-6

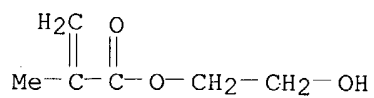
CMF C7 H18 O3 Si



CM 4

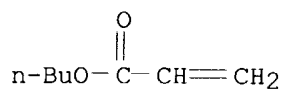
CRN 868-77-9

CMF C6 H10 O3



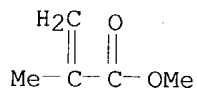
CM 5

CRN 141-32-2  
CMF C7 H12 O2



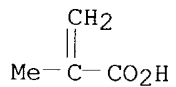
CM 6

CRN 80-62-6  
CMF C5 H8 O2



CM 7

CRN 79-41-4  
CMF C4 H6 O2

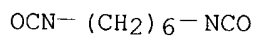


CM 8

CRN 28574-90-5  
CMF (C8 H12 N2 O2) 3  
CCI PMS

CM 9

CRN 822-06-0  
CMF C8 H12 N2 O2



RN 172158-81-5 HCAPLUS

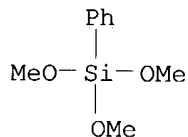
KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CN 2-Propenoic acid, 2-methyl-, polymer with butyl 2-propenoate,  
1,6-diisocyanatohexane, ethenylbenzene, 2-hydroxyethyl  
2-methyl-2-propenoate, methyl 2-methyl-2-propenoate,  
triethoxymethylsilane, trimethoxyphenylsilane and 3-  
(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2996-92-1

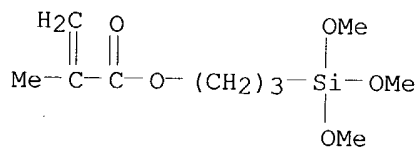
CMF C9 H14 O3 Si



CM 2

CRN 2530-85-0

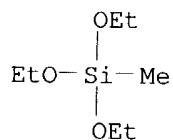
CMF C10 H20 O5 Si



CM 3

CRN 2031-67-6

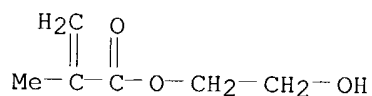
CMF C7 H18 O3 Si



CM 4

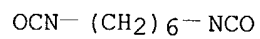
CRN 868-77-9

CMF C6 H10 O3



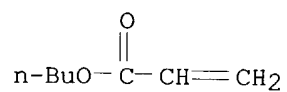
CM 5

CRN 822-06-0  
CMF C8 H12 N2 O2



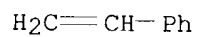
CM 6

CRN 141-32-2  
CMF C7 H12 O2



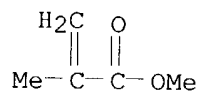
CM 7

CRN 100-42-5  
CMF C8 H8



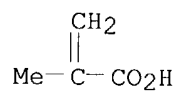
CM 8

CRN 80-62-6  
CMF C5 H8 O2



CM 9

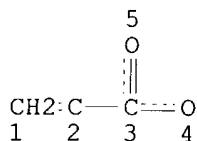
CRN 79-41-4  
CMF C4 H6 O2



=> => D QUE

10 more CA  
references on  
polymers which  
are radiation  
curable

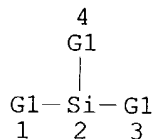
L10 STR



NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE  
L11 STR



O---Ak  
@5 6

VAR G1=AK/5  
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DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE  
L15 STR

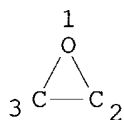


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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE  
L18 STR





NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE  
 L19 STR

O—Ak—O  
 1 2 3

NODE ATTRIBUTES:  
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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
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STEREO ATTRIBUTES: NONE

L21 285 SEA FILE=REGISTRY SSS FUL L10 AND L11 AND L15 AND (L18 OR L19)  
 L22 125 SEA FILE=HCAPLUS ABB=ON L21  
 L24 62 SEA FILE=HCAPLUS ABB=ON L22 AND CUR?  
 L25 8 SEA FILE=HCAPLUS ABB=ON L24 AND CUR?(6A)MOISTURE  
 L26 2 SEA FILE=HCAPLUS ABB=ON L25 AND RADIAT?  
 L29 1694 SEA FILE=HCAPLUS ABB=ON CUR?(6A) (MOISTURE OR WATER? OR  
 AQUEOUS? OR H2O) (6A) (IRRADIAT? OR RADIAT? OR UV OR ULTRAVIOLET  
 OR ULTRA(W)VIOLET OR IR OR INFRARED OR INFRA(W)RED)  
 L30 1 SEA FILE=HCAPLUS ABB=ON L29 AND L22  
 L31 18466 SEA FILE=HCAPLUS ABB=ON CUR?(L) (MOISTURE OR WATER? OR  
 AQUEOUS? OR H2O) (L) (IRRADIAT? OR RADIAT? OR UV OR ULTRAVIOLET  
 OR ULTRA(W)VIOLET OR IR OR INFRARED OR INFRA(W)RED)  
 L32 8 SEA FILE=HCAPLUS ABB=ON L22 AND L31  
 L33 8 SEA FILE=HCAPLUS ABB=ON L26 OR L30 OR L32  
 L34 138627 SEA FILE=HCAPLUS ABB=ON CUR?(L) (IRRADIAT? OR RADIAT? OR UV OR  
 ULTRAVIOLET OR ULTRA(W)VIOLET OR IR OR INFRARED OR INFRA(W)RED)  
 L35 18 SEA FILE=HCAPLUS ABB=ON L22 AND L34  
 L36 10 SEA FILE=HCAPLUS ABB=ON L35 NOT L33

=> D L36 BIB ABS IND HITSTR 1-10

L36 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:539760 HCAPLUS  
 DN 137:110608  
 TI **Radiation-curable** polyurethane acrylate coating  
 composition for optical glass fibers  
 IN Bishop, Timothy Edward; Lin, Jibing; Krumin, David; Coons, Lindsay Scott;

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

Buijsen, Paulus Franciscus Anna  
 PA DSM N.V., Neth.  
 SO PCT Int. Appl., 19 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002055614	A2	20020718	WO 2002-NL19	20020111
	WO 2002055614	A3	20030424		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003002845	A1	20030102	US 2002-42282	20020111
	US 2003018122	A1	20030123	US 2002-42284	20020111
	EP 1358276	A2	20031105	EP 2002-710534	20020111
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004526006	T2	20040826	JP 2002-556671	20020111
PRAI	US 2001-260917P	P	20010112		
	US 2001-265321P	P	20010201		
	US 2001-265309P	P	20010201		
	WO 2002-NL19	W	20020111		
AB	Title composition comprises (i) at least one <b>radiation-curable</b> oligomer; and 5 (ii) 0-20 wt%, relative to the total weight of the composition, of monofunctional reactive diluents. The composition is characterized in that a viscosity is less than 10,000 cps at 25°; and, a secant modulus after being <b>cured</b> , of less than 5 MPa. The compns. have a low amount of, or are even absent of, reactive diluents while still exhibiting a sufficiently low viscosity to be useful in a wide variety of coating applications, such as in processes for coating optical fibers. Thus, a coating composition, having viscosity 4,900 cps at 25°, secant modulus after being <b>cured</b> of 1.04 MPa, and elongation 147%, is prepared from polyether-based urethane acrylate, bisphenol A ethoxylated diacrylate, ethoxylated lauryl acrylate, vinyl caprolactam, $\gamma$ -mercaptopropyl trimethoxysilane (adhesion promoter), Tinuvin 622 (antioxidant), and photoinitiators (Irgacure 184 and Irgacure 1700).				
IC	ICM C09D004-06				
	ICS C08F290-06; C03C025-10				
CC	42-10 (Coatings, Inks, and Related Products)				
	Section cross-reference(s): 57, 73, 74				
ST	<b>radiation curable</b> polyurethane acrylate coating				
	optical glass fiber				
IT	Polyurethanes, uses				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(acrylic-polyoxyalkylene-; manufacture of <b>radiation-curable</b> polyurethane acrylate coating composition for optical glass fibers)				
IT	Adhesion promoters				

Antioxidants  
Optical fibers  
(manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT Glass fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT Polymerization catalysts  
(photopolymer.; manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT Coating materials  
(**radiation-curable**; manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT 65447-77-0 70198-29-7, Tinuvin 622  
RL: MOA (Modifier or additive use); USES (Uses)  
(antioxidant; manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT 442681-71-2P 442852-94-0P 442852-95-1P  
442852-96-2P 442852-97-3P 442852-98-4P  
442852-99-5P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT 947-19-3, Irgacure 184 174285-64-4, Irgacure 1700 189146-15-4  
RL: CAT (Catalyst use); USES (Uses)  
(photoinitiator; manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

IT 442681-71-2P 442852-94-0P 442852-95-1P  
442852-96-2P 442852-97-3P 442852-98-4P  
442852-99-5P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of **radiation-curable** polyurethane acrylate coating composition for optical glass fibers)

RN 442681-71-2 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,3-diisocyanatomethylbenzene, 1,6-diisocyanato-2,2,4-trimethylhexane, 1-ethenylhexahydro-2H-azepin-2-one,  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)],  $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)],  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(dodecyloxy)poly(oxy-1,2-ethanediyl), tetrahydrofuran, tetrahydro-3-methylfuran, and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

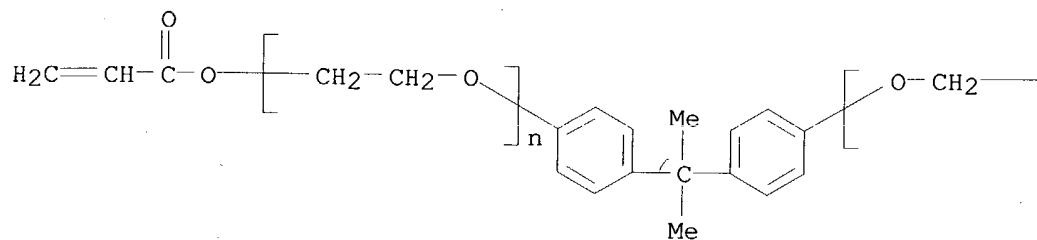
CM 1

CRN 64401-02-1

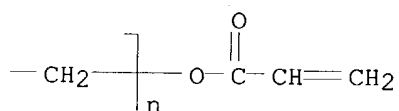
CMF (C2 H4 O)n (C2 H4 O)n C21 H20 O4

CCI PMS

PAGE 1-A



PAGE 1-B

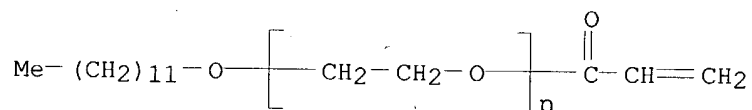


CM 2

CRN 39927-09-8

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CCI PMS

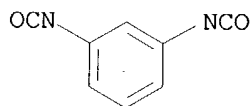


CM 3

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



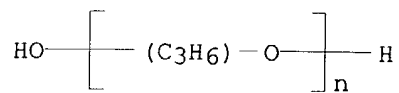
D1-Me

CM 4

CRN 25322-69-4

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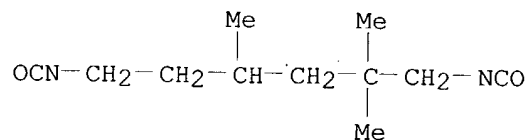
CCI IDS, PMS



CM 5

CRN 16938-22-0

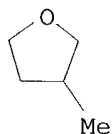
CMF C11 H18 N2 O2



CM 6

CRN 13423-15-9

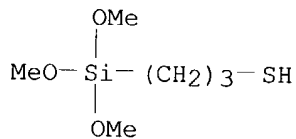
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CM 7

CRN 4420-74-0

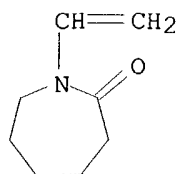
CMF C6 H16 O3 S Si



CM 8

CRN 2235-00-9

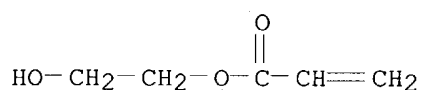
CMF C8 H13 N O



CM 9

CRN 818-61-1

CMF C5 H8 O3



CM 10

CRN 109-99-9

CMF C4 H8 O



RN 442852-94-0 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,3-diisocyanatomethylbenzene, 1,6-diisocyanato-2,2,4-trimethylhexane, 1-ethenylhexahydro-2H-azepin-2-one, ethyloxirane,  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)],  $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)], oxirane,  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(dodecyloxy)poly(oxy-1,2-ethanediyl) and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

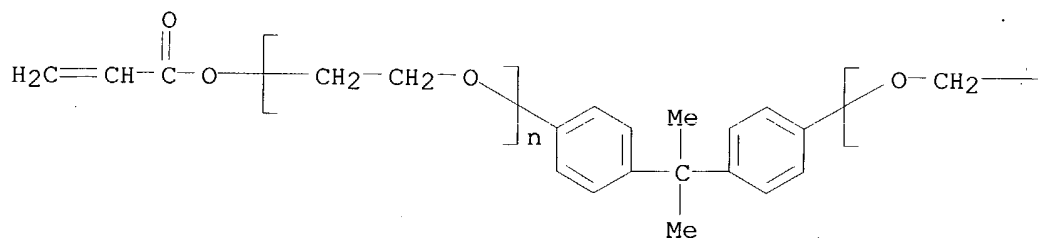
CM 1

CRN 64401-02-1

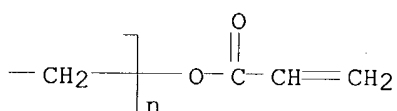
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C21 H20 O4

CCI PMS

PAGE 1-A



PAGE 1-B

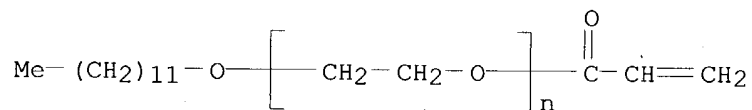


CM 2

CRN 39927-09-8

CMF (C2 H4 O)<sub>n</sub> C15 H28 O2

CCI PMS

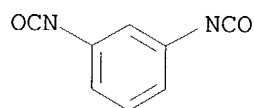


CM 3

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



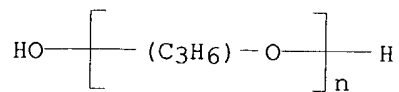
D1-Me

CM 4

CRN 25322-69-4

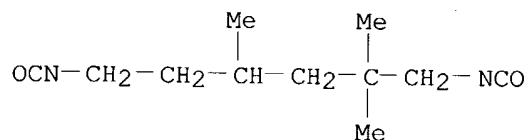
CMF (C3 H6 O)<sub>n</sub> H2 O

CCI IDS, PMS



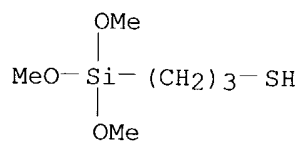
CM 5

CRN 16938-22-0  
CMF C11 H18 N2 O2



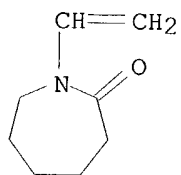
CM 6

CRN 4420-74-0  
CMF C6 H16 O3 S Si



CM 7

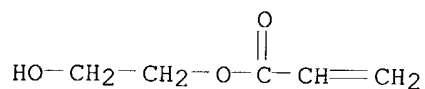
CRN 2235-00-9  
CMF C8 H13 N O



CM 8

CRN 818-61-1  
CMF C5 H8 O3

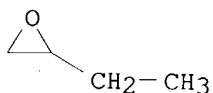




CM 9

CRN 106-88-7

CMF C4 H8 O



CM 10

CRN 75-21-8

CMF C2 H4 O



RN 442852-95-1 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,3-diisocyanatomethylbenzene, 1,6-diisocyanato-2,2,4-trimethylhexane, 1-ethenylhexahydro-2H-azepin-2-one, ethyloxirane,  $\alpha, \alpha'$ -(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)], oxirane and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

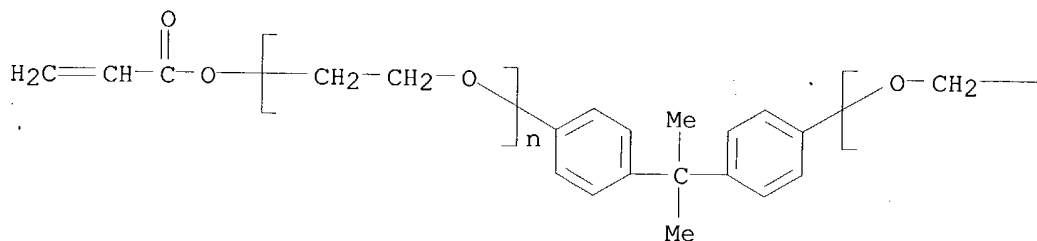
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CRN 64401-02-1

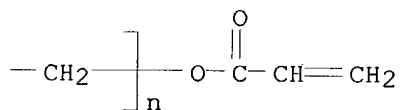
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C21 H20 O4

CCI PMS

PAGE 1-A

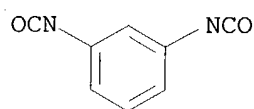


PAGE 1-B



CM 2

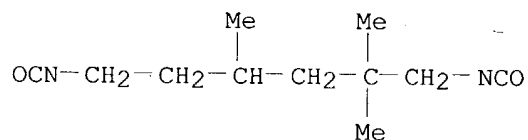
CRN 26471-62-5  
CMF C9 H6 N2 O2  
CCI IDS



D1-Me

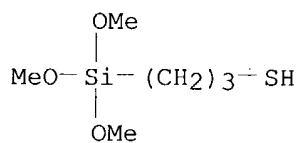
CM 3

CRN 16938-22-0  
CMF C11 H18 N2 O2



CM 4

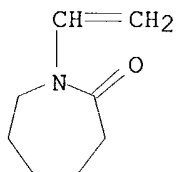
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CMF C6 H16 O3 S Si



CM 5

CRN 2235-00-9

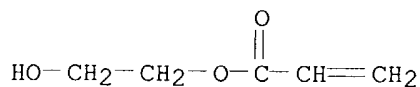
CMF C8 H13 N O



CM 6

CRN 818-61-1

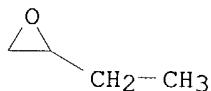
CMF C5 H8 O3



CM 7

CRN 106-88-7

CMF C4 H8 O



CM 8

CRN 75-21-8

CMF C2 H4 O



RN 442852-96-2 HCAPLUS

CN 2-Propenoic acid, (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) ester, polymer with Acclaim 4200, 1,6-diisocyanato-2,2,4-trimethylhexane, 1-ethenylhexahydro-2H-azepin-2-one, 2-hydroxyethyl 2-propenoate and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

CM 1

CRN 188571-36-0

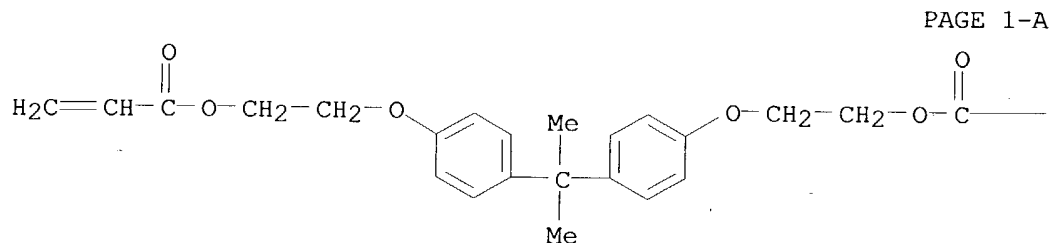
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CCI PMS, MAN

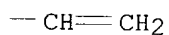
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CM 2

CRN 24447-78-7  
CMF C25 H28 O6

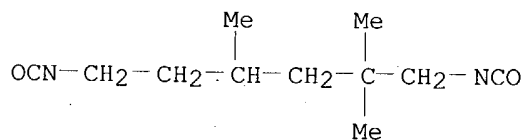


PAGE 1-B



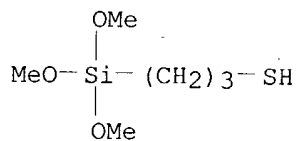
CM 3

CRN 16938-22-0  
CMF C11 H18 N2 O2



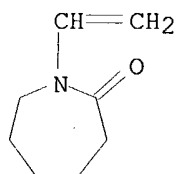
CM 4

CRN 4420-74-0  
CMF C6 H16 O3 S Si



CM 5

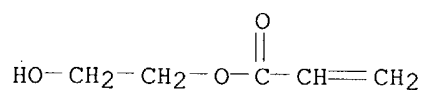
CRN 2235-00-9  
CMF C8 H13 N O



CM 6

CRN 818-61-1

CMF C5 H8 O3



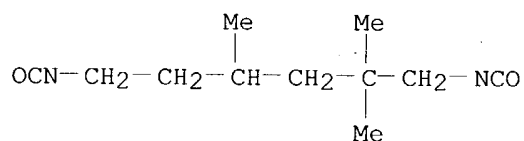
RN 442852-97-3 HCAPLUS

CN 2-Propenoic acid, 1,6-hexanediyl ester, polymer with 1,6-diisocyanato-2,2,4-trimethylhexane, ethyloxirane, 2-hydroxyethyl 2-propenoate, oxirane and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

CM 1

CRN 16938-22-0

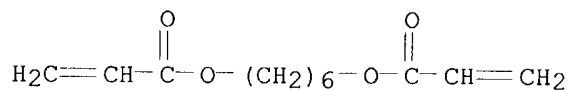
CMF C11 H18 N2 O2



CM 2

CRN 13048-33-4

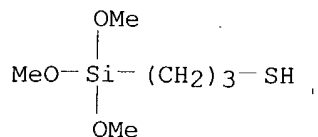
CMF C12 H18 O4



CM 3

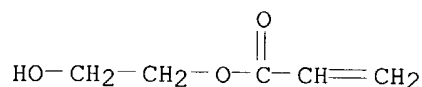
CRN 4420-74-0

CMF C6 H16 O3 S Si



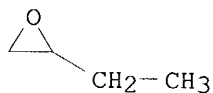
CM 4

CRN 818-61-1  
CMF C5 H8 O3



CM 5

CRN 106-88-7  
CMF C4 H8 O



CM 6

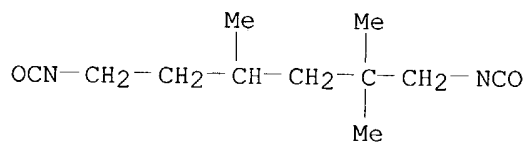
CRN 75-21-8  
CMF C2 H4 O



RN 442852-98-4 HCAPLUS  
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,6-diisocyanato-2,2,4-trimethylhexane, ethyloxirane, isodecyl 2-propenoate, oxirane and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

CM 1

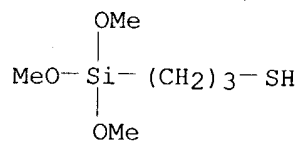
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CMF C11 H18 N2 O2



CM 2

CRN 4420-74-0

CMF C6 H16 O3 S Si

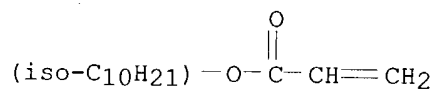


CM 3

CRN 1330-61-6

CMF C13 H24 O2

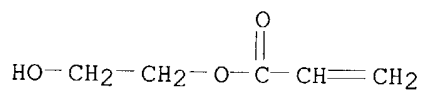
CCI IDS



CM 4

CRN 818-61-1

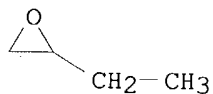
CMF C5 H8 O3



CM 5

CRN 106-88-7

CMF C4 H8 O



CM 6

CRN 75-21-8

CMF C2 H4 O



RN 442852-99-5 HCAPLUS  
 CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with Acclaim 4200,  
 1,6-diisocyanato-2,2,4-trimethylhexane, isodecyl 2-propenoate and  
 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

CM 1

CRN 188571-36-0

CMF Unspecified

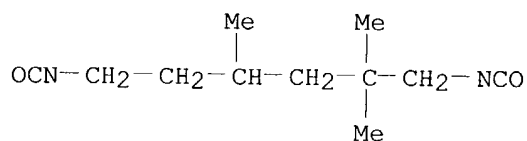
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 16938-22-0

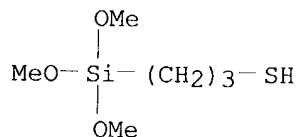
CMF C11 H18 N2 O2



CM 3

CRN 4420-74-0

CMF C6 H16 O3 S Si

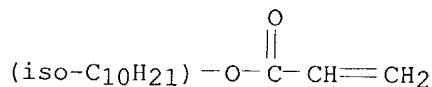


CM 4

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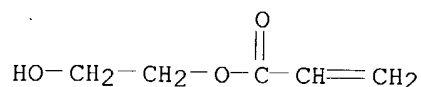
CCI IDS



CM 5



CRN 818-61-1  
CMF C5 H8 O3



L36 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:539759 HCAPLUS  
DN 137:110607

TI **Radiation-curable** compositions comprising alkoxyated aliphatic diluents for optical glass fiber coating

IN Chawla, Chander Prakash; Montgomery, Eva Irene

PA DSM N.V., Neth.

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002055613	A2	20020718	WO 2002-NL17	20020111
	WO 2002055613	A3	20021121		
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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PRAI	US 2001-260917P	P	20010112		
	US 2001-265309P	P	20010201		
	US 2001-265321P	P	20010201		
	WO 2002-NL17	W	20020111		

AB Title composition comprises (a) a **radiation-curable** oligomer, and (b) an alkoxyated aliphatic reactive diluent comprising an aliphatic moiety having at least 7 carbon atoms. The alkoxyated aliphatic reactive diluents improve the **cure** speed of **radiation-curable** compns. Thus, a coating, having good phys. properties and **cure** speed of 0.28 J/cm<sup>2</sup>, is manufactured from polyether-based polyurethane acrylate, ethoxylated bisphenol A diacrylate, ethoxylated lauryl acrylate, vinyl caprolactam,  $\gamma$ -mercaptopropyl trimethoxysilane (adhesion promoter), photoinitiators (Irgacure 1700 and Irgacure 184), and Tinuvin 622 (antioxidant).

IC ICM C09D004-06

ICS C08F290-06; C09D004-00; C08F220-28; C03C025-10

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57, 73, 74

- ST **radiation curable** coating alkoxylated aliph optical  
glass fiber; ethoxylated polyurethane acrylate coating
- IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(acrylate-terminated, reaction products with acrylates and ethoxylated  
acrylates; manufacture of **radiation-curable** compns.  
comprising alkoxylated aliphatic diluents for optical glass fiber coating)
- IT Polyurethanes, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(acrylic-polyoxyalkylene-; manufacture of **radiation-  
curable** compns. comprising alkoxylated aliphatic diluents for  
optical glass fiber coating)
- IT Silanes  
RL: MOA (Modifier or additive use); USES (Uses)  
(adhesion promoter; manufacture of **radiation-curable**  
compns. comprising alkoxylated aliphatic diluents for optical glass fiber  
coating)
- IT Antioxidants  
Crosslinking catalysts  
Optical fibers  
(manufacture of **radiation-curable** compns. comprising  
alkoxylated aliphatic diluents for optical glass fiber coating)
- IT Glass fibers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(manufacture of **radiation-curable** compns. comprising  
alkoxylated aliphatic diluents for optical glass fiber coating)
- IT Polymerization catalysts  
(photopolymer.; manufacture of **radiation-curable** compns.  
comprising alkoxylated aliphatic diluents for optical glass fiber coating)
- IT Coating materials  
(**radiation-curable**; manufacture of **radiation-  
curable** compns. comprising alkoxylated aliphatic diluents for  
optical glass fiber coating)
- IT Adhesion promoters  
(silanes; manufacture of **radiation-curable** compns.  
comprising alkoxylated aliphatic diluents for optical glass fiber coating)
- IT 70198-29-7, Tinuvin 622  
RL: MOA (Modifier or additive use); USES (Uses)  
(UV-absorber; manufacture of **radiation-curable**  
compns. comprising alkoxylated aliphatic diluents for optical glass fiber  
coating)
- IT 4420-74-0,  $\gamma$ -Mercaptopropyl trimethoxysilane  
RL: MOA (Modifier or additive use); USES (Uses)  
(adhesion promoter; manufacture of **radiation-curable**  
compns. comprising alkoxylated aliphatic diluents for optical glass fiber  
coating)
- IT 41484-35-9, Irganox 1035  
RL: MOA (Modifier or additive use); USES (Uses)  
(antioxidant; manufacture of **radiation-curable** compns.  
comprising alkoxylated aliphatic diluents for optical glass fiber coating)
- IT 39927-09-8DP, reaction products with acrylates, ethoxylated acrylates, and  
urethane acrylates 50974-47-5DP, Ethoxylated nonyl phenol acrylate,  
reaction products with acrylates, ethoxylated acrylates, and urethane  
acrylates 64401-02-1DP, reaction products with acrylates, ethoxylated

acrylates, and urethane acrylates **442681-71-2P**

**442681-72-3P** 442904-68-9DP, reaction products with acrylates, ethoxylated acrylates, and urethane acrylates

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of **radiation-curable** compns. comprising alkoxyated aliphatic diluents for optical glass fiber coating)

IT 947-19-3, Irgacure 184 174285-64-4, Irgacure 1700 442911-56-0, Irgacure 2020

RL: CAT (Catalyst use); USES (Uses)

(photoinitiator; manufacture of **radiation-curable** compns. comprising alkoxyated aliphatic diluents for optical glass fiber coating)

IT **442681-71-2P 442681-72-3P**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of **radiation-curable** compns. comprising alkoxyated aliphatic diluents for optical glass fiber coating)

RN 442681-71-2 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,3-diisocyanatomethylbenzene, 1,6-diisocyanato-2,2,4-trimethylhexane, 1-ethenylhexahydro-2H-azepin-2-one,  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)],  $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl),  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(dodecyloxy)poly(oxy-1,2-ethanediyl), tetrahydrofuran, tetrahydro-3-methylfuran and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

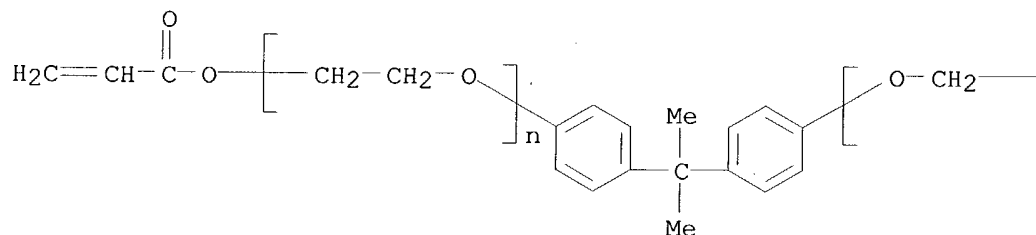
CM 1

CRN 64401-02-1

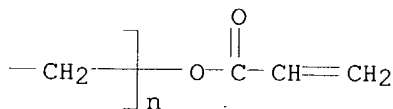
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C21 H20 O4

CCI PMS

PAGE 1-A



PAGE 1-B

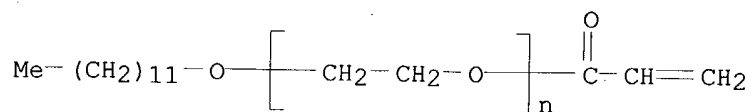


CM 2

CRN 39927-09-8

CMF (C2 H4 O)n C15 H28 O2

CCI PMS

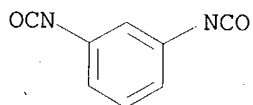


CM 3

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



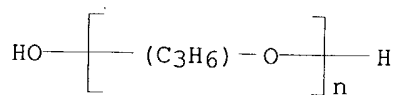
D1-Me

CM 4

CRN 25322-69-4

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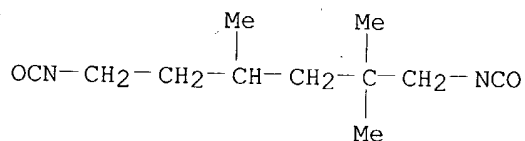
CCI IDS, PMS



CM 5

CRN 16938-22-0

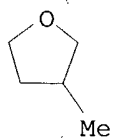
CMF C11 H18 N2 O2



CM 6

CRN 13423-15-9

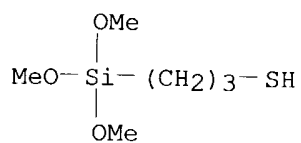
CMF C5 H10 O



CM 7

CRN 4420-74-0

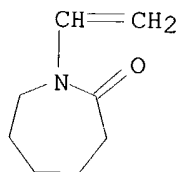
CMF C6 H16 O3 S Si



CM 8

CRN 2235-00-9

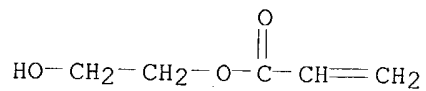
CMF C8 H13 N O



CM 9

CRN 818-61-1

CMF C5 H8 O3



CM 10

CRN 109-99-9

CMF C4 H8 O



RN 442681-72-3 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,3-diisocyanatomethylbenzene, 1,6-diisocyanato-2,2,4-trimethylhexane, epoxybutane, 1-ethenylhexahydro-2H-azepin-2-one,  $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl)], oxirane,  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(dodecyloxy)poly(oxy-1,2-ethanediyl) and 3-(trimethoxysilyl)-1-propanethiol (9CI) (CA INDEX NAME)

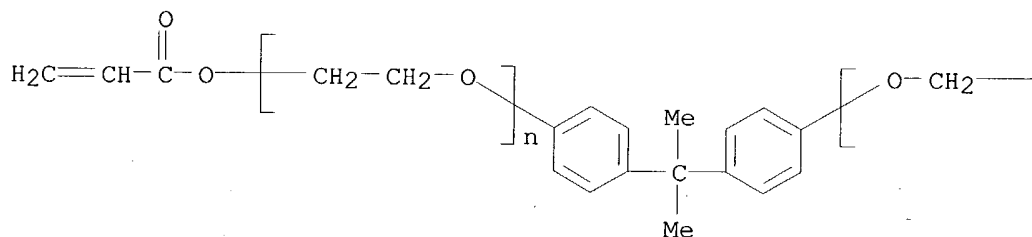
CM 1

CRN 64401-02-1

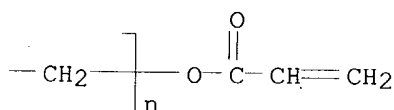
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C21 H20 O4

CCI PMS

PAGE 1-A



PAGE 1-B

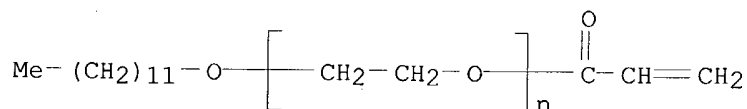


CM 2

CRN 39927-09-8

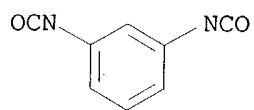
CMF (C2 H4 O)<sub>n</sub> C15 H28 O2

CCI PMS



CM 3

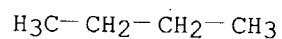
CRN 26471-62-5  
CMF C9 H6 N2 O2  
CCI IDS



D1-Me

CM 4

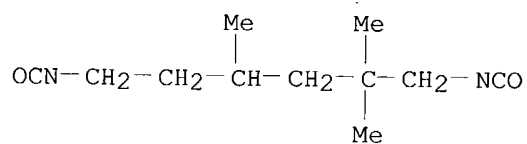
CRN 26249-20-7  
CMF C4 H8 O  
CCI IDS



D1-O-D1

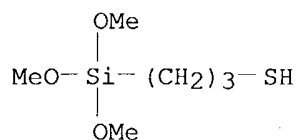
CM 5

CRN 16938-22-0  
CMF C11 H18 N2 O2



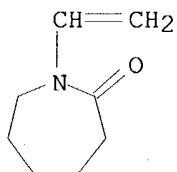
CM 6

CRN 4420-74-0  
CMF C6 H16 O3 S Si



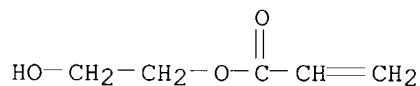
CM 7

CRN 2235-00-9  
CMF C8 H13 N O



CM 8

CRN 818-61-1  
CMF C5 H8 O3



CM 9

CRN 75-21-8  
CMF C2 H4 O



L36 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:168079 HCAPLUS  
DN 134:208976  
TI Adhesive composition and method of bonding with the adhesive composition  
IN Kuroda, Takeo; Fukui, Hiroji; Ishizawa, Hideaki  
PA Sekisui Chemical Co. Ltd., Japan  
SO PCT Int. Appl., 45 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



PI WO 2001016248 A1 20010308 WO 2000-JP5694 20000824  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,  
LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD,  
SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,  
ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
EP 1209212 A1 20020529 EP 2000-954979 20000824  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL  
JP 2001139893 A2 20010522 JP 2000-257574 20000828  
PRAI JP 1999-241599 A 19990827  
WO 2000-JP5694 W 20000824

AB An adhesive composition (viscosity 1-1 + 106 cP) which is flowable, has a viscosity making the composition applicable, has a long pot life, develops cohesive force upon short-time **irradiation** with light, does not necessitate temporary fixing, and is excellent in impact resistance and creep resistance after **cure**. The adhesive composition comprises (A) a compound having a crosslinkable group or a polymerizable group and (B) a compound which upon **irradiation** with actinic energy rays generates an ingredient which crosslinks or polymerizes at least part of A. In the composition, the conversion of the compound A immediately after completion of the

**irradiation** with actinic energy rays is  $\leq 70\%$ , and that of A compound after 24 h aging at 25° after completion of the **irradiation** with actinic energy rays is 50-100%. The **cured** article obtained through 24 h aging after completion of the **irradn** . with actinic energy rays has an elongation at break of 10-1,000% and a dynamic tensile modulus of 105-109 Pa. Thus, a photocurable composition was made from a mixture of MS Polymer S 303 100, SB 65 1, AH 600 18, and Irgacure 819 0.5 part.

IC ICM C09J201-00  
ICS C09J004-06; C09J171-02; C09J005-00  
CC 38-3 (Plastics Fabrication and Uses)  
ST photocurable polyurethane siloxane acrylate adhesive; actinic energy ray curable adhesive; thixotropic agent photocurable adhesive compn  
IT Glass microspheres  
RL: MOA (Modifier or additive use); USES (Uses)  
(Q-Cel 520, thixotropic agents; adhesive composition and method of bonding with the adhesive composition)  
IT Thixotropic agents  
(adhesive composition and method of bonding with the adhesive composition)  
IT Balloons  
Microspheres  
(microballoons; adhesive composition and method of bonding with the adhesive composition)  
IT Adhesives  
(photocurable; adhesive composition and method of bonding with the adhesive composition)  
IT Polyurethanes, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(polyoxyalkylene-; adhesive composition and method of bonding with the adhesive composition)  
IT Polysiloxanes, uses

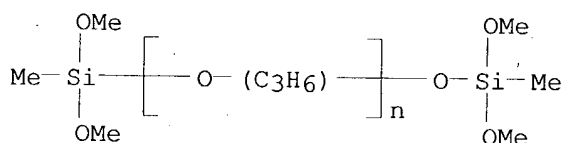
- RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(polyurethane-, acrylate-terminated; adhesive composition and method of bonding with the adhesive composition)
- IT Polyurethanes, uses  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(siloxane-, acrylate-terminated; adhesive composition and method of bonding with the adhesive composition)
- IT 7631-86-9, Silica, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(adhesive composition and method of bonding with the adhesive composition)
- IT **328261-85-4**, AH 600-MS Polymer S 303 copolymer **328261-87-6**  
328261-89-8 328261-91-2 **328261-93-4** 328261-95-6  
328261-97-8  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(adhesive composition and method of bonding with the adhesive composition)
- IT 471-34-1, Viscolite U, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(colloidal, thixotropic agents; adhesive composition and method of bonding with the adhesive composition)
- IT **328261-85-4**, AH 600-MS Polymer S 303 copolymer **328261-87-6**  
**328261-93-4**  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(adhesive composition and method of bonding with the adhesive composition)
- RN 328261-85-4 HCAPLUS
- CN 2-Propenoic acid, 2-hydroxy-3-phenoxypropyl ester, polymer with 1,6-diisocyanatohexane and  $\alpha$ -(dimethoxymethylsilyl)- $\omega$ -[(dimethoxymethylsilyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 77396-40-8

CMF (C3 H6 O)<sub>n</sub> C6 H18 O5 Si2

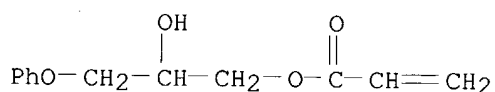
CCI IDS, PMS



CM 2

CRN 16969-10-1

CMF C12 H14 O4



CM 3

CRN 822-06-0

CMF C8 H12 N2 O2

OCN- (CH<sub>2</sub>)<sub>6</sub>-NCO

RN 328261-87-6 HCAPLUS

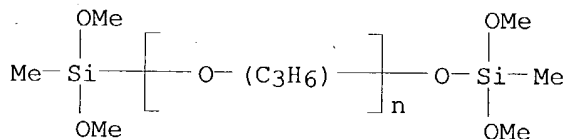
CN 2-Propenoic acid, 2-hydroxy-3-phenoxypropyl ester, polymer with  
1,6-diisocyanatohexane,  $\alpha$ -(dimethoxymethylsilyl)- $\omega$ -  
[(dimethoxymethylsilyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] and  
2-[2-(2-methoxymethylethoxy)methylethoxy]methylethyl 2-propenoate (9CI)  
(CA INDEX NAME)

CM 1

CRN 77396-40-8

CMF (C3 H6 O)<sub>n</sub> C6 H18 O5 Si2

CCI IDS, PMS

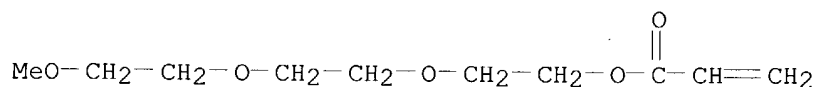


CM 2

CRN 54398-08-2

CMF C13 H24 O5

CCI IDS

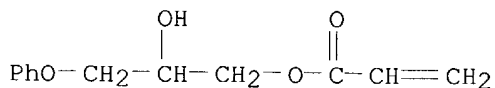


3 ( D1-Me )

CM 3

CRN 16969-10-1

CMF C12 H14 O4



CM 4

CRN 822-06-0

CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

RN 328261-93-4 HCAPLUS

CN 2-Propenoic acid, 2-hydroxy-3-phenoxypropyl ester, polymer with  
1,6-diisocyanatohexane, α-(dimethoxymethylsilyl)-ω-  
[(dimethoxymethylsilyl)oxy]poly[oxy(methyl-1,2-ethanediyl)], Macromonomer  
AA 6 and 2-[2-(2-methoxymethylethoxy)methylethoxy]methylethyl 2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

CRN 122525-04-6

CMF Unspecified

CCI PMS, MAN

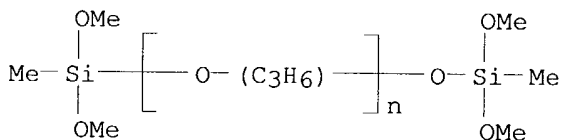
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 77396-40-8

CMF (C<sub>3</sub> H<sub>6</sub> O)<sub>n</sub> C<sub>6</sub> H<sub>18</sub> O<sub>5</sub> Si<sub>2</sub>

CCI IDS, PMS

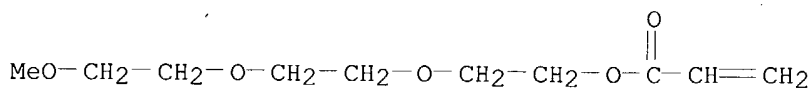


CM 3

CRN 54398-08-2

CMF C13 H<sub>24</sub> O<sub>5</sub>

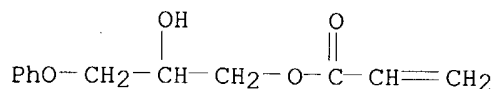
CCI IDS



3 ( D1-Me )

CM 4

CRN 16969-10-1  
CMF C12 H14 O4



CM 5

CRN 822-06-0  
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:40195 HCAPLUS

DN 134:102335

TI Low-temperature-curable resin compositions and their coatings

IN Osanai, Yoshitaka; Kageishi, Ichiji; Ando, Arimi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001011365	A2	20010116	JP 1999-184711	19990630
PRAI	JP 1999-184711		19990630		

AB Title compns. comprise OH- and alicyclic epoxy group-containing acrylic resins with number-average mol. weight (Mn) of 2,000-80,000, alicyclic epoxy resins with

epoxy equivalent (EQ) of 102-103, glycidyl and alkoxy group-containing organic silanes, Al chelates, and rubber-modified epoxy resins with EQ of 500-5,000. A primed polypropylene plate was coated with an organic solution

(A)

containing Bu acrylate-Bu methacrylate-3,4-epoxycyclohexylmethyl acrylate-2-hydroxyethyl methacrylate-Me methacrylate copolymer, 3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexylcarboxylate, 3-glycidoxypropyltrimethoxysilane, Al tris(acetylacetonate), nitrile rubber-modified bisphenol A epoxy resin, and Al paste, topcoated with an Al paste-free A solution, and baked at 80° for 20 min to form a plate showing good smoothness, weather resistance, and -20° flexural resistance.

IC ICM C09D133-14

ICS B05D007-14; B05D007-24; C09D007-12; C09D163-00; C09D163-08; C09D163-10; C09D175-04; C09D183-06

CC 42-10 (Coatings, Inks, and Related Products)

ST low temp curable alicyclic epoxy acrylic polysiloxane coating; weather resistance alicyclic epoxy acrylic polysiloxane coating; flexural

- resistance alicyclic epoxy acrylic polysiloxane coating
- IT Polysiloxanes, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic-epoxy; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT Epoxy resins, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic-polysiloxane-; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT Nitrile rubber, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (bisphenol A epoxy resin-modified; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT Coating materials  
 (low-temperature-curable; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT 82537-67-5  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (UV absorbers; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT 13963-57-0, Aluminum tris(acetylacetonate)  
 RL: CAT (Catalyst use); USES (Uses)  
 (low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT 2386-87-ODP, 3,4-Epoxy cyclohexylmethyl 3,4-epoxycyclohexylcarboxylate, polymers with glycidoxyalkoxysilanes and alicyclic epoxy- and OH-containing acrylic resins and modified epoxy resins 2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, polymers with alicyclic epoxy- and OH-containing acrylic resins and alicyclic epoxides and modified epoxy resins 25068-38-6DP, Bisphenol A epoxy resin, reaction products with nitrile rubber, polymers with glycidoxyalkoxysilanes and alicyclic epoxy- and OH-containing acrylic resins and alicyclic epoxides 318988-59-9DP, Butyl acrylate-butyl methacrylate-(3,4-epoxycyclohexyl)methyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate copolymer, polymers with glycidoxyalkoxysilanes and alicyclic epoxides and rubber-modified epoxy resins 318988-60-2DP, Butyl acrylate-butyl methacrylate-(3,4-epoxycyclohexyl)methyl acrylate-4-hydroxybutyl acrylate-methyl methacrylate copolymer, polymers with glycidoxyalkoxysilanes and alicyclic epoxides and rubber-modified epoxy resins 318988-61-3DP, Butyl acrylate-butyl methacrylate-(3,4-epoxycyclohexyl)methyl acrylate-4-hydroxybutyl acrylate-methyl methacrylate copolymer, polymers with glycidoxyalkoxysilanes and alicyclic epoxides and rubber-modified epoxy resins 318988-62-4P, Butyl acrylate-butyl methacrylate-(3,4-epoxycyclohexyl)methyl acrylate-4-hydroxybutyl acrylate-methyl methacrylate-3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexylcarboxylate-3-glycidoxypropyltrimethoxysilane-bisphenol A-epichlorohydrin-HMDI-PTMG copolymer  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)
- IT 9003-18-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nitrile rubber, bisphenol A epoxy resin-modified; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)

IT 9003-07-0, Polypropylene

RL: MSC (Miscellaneous)

(substrate; low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)

IT 318988-62-4P, Butyl acrylate-butyl methacrylate-(3,4-epoxycyclohexyl)methyl acrylate-4-hydroxybutyl acrylate-methyl methacrylate-3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexylcarboxylate-3-glycidoxypropyltrimethoxysilane-bisphenol A-epichlorohydrin-HMDI-PTMG copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM

(Technical or engineered material use); PREP (Preparation); USES (Uses)

(low-temperature-curable alicyclic epoxy acrylic polysiloxane coatings with flexural and weather resistance)

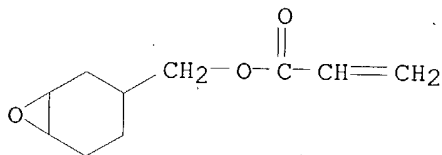
RN 318988-62-4 HCAPLUS

CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with butyl 2-methyl-2-propenoate, butyl 2-propenoate, (chloromethyl)oxirane, 1,6-diisocyanatohexane,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), 4-hydroxybutyl 2-propenoate, 4,4'-(1-methylethylidene)bis[phenol], methyl 2-methyl-2-propenoate, 7-oxabicyclo[4.1.0]hept-3-ylmethyl 2-propenoate and trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

CM 1

CRN 64630-63-3

CMF C10 H14 O3

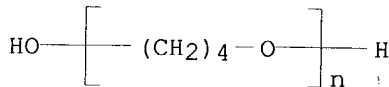


CM 2

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

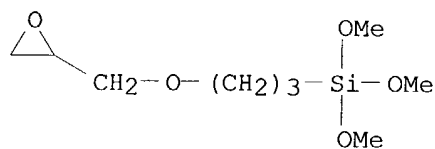
CCI PMS



CM 3

CRN 2530-83-8

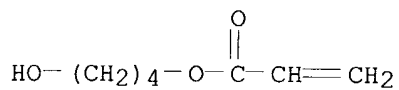
CMF C9 H20 O5 Si



CM 4

CRN 2478-10-6

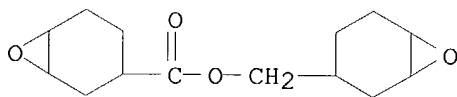
CMF C7 H12 O3



CM 5

CRN 2386-87-0

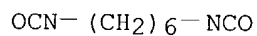
CMF C14 H20 O4



CM 6

CRN 822-06-0

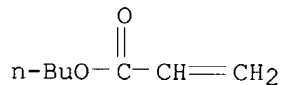
CMF C8 H12 N2 O2



CM 7

CRN 141-32-2

CMF C7 H12 O2

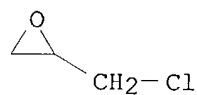


CM 8

CRN 106-89-8

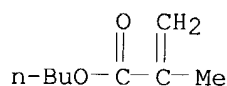


CMF C3 H5 Cl O



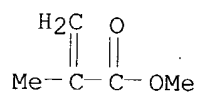
CM 9

CRN 97-88-1  
CMF C8 H14 O2



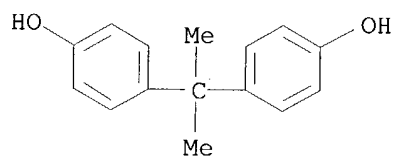
CM 10

CRN 80-62-6  
CMF C5 H8 O2



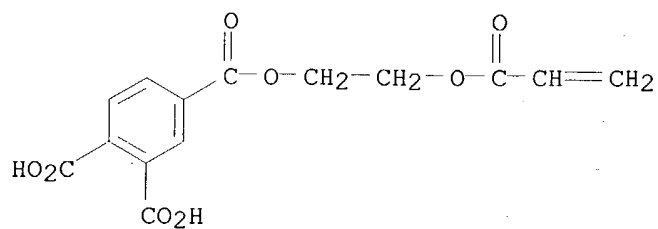
CM 11

CRN 80-05-7  
CMF C15 H16 O2



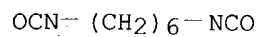
L36 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:25588 HCAPLUS  
DN 132:83711  
TI Urethane (meth)acrylates-based photopolymerizable dental adhesive compositions  
IN Deguchi, Mikito  
PA Shofu K. K., Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000007517	A2	20000111	JP 1998-208507	19980617
PRAI	JP 1998-208507		19980617		
AB	<p>The adhesive compns., useful for restoration of surface of composite resin teeth with a facing crown material or composite resins, contain (a) a <b>curable</b> composition containing polymers and urethane (meth)acrylate which is not soluble or swellable in the polymers 5.0-0.0 (sic), (b) polymerizable monomers having <math>\geq 1</math> reactive vinyl group 35.0-95.0, (c) 4-acryloxyethyltrimellitic acid 1.0-5.0, and as a balance (d) <math>\geq 1</math> selected from alkoxysilanes, polymerization initiators, polymerization accelerators, UV absorbers, fluorescent agents, pigments, and matting agents. The compns. give <b>cured</b> products with high rigidity, adhesion durability, and transparency. PMMA was added in a small portions to a mixture of 2-HEMA (2-hydroxyethyl methacrylate) at 40-50° over 3-5 h and the reaction mixture was further treated with TMDI (trimethylhexamethylene diisocyanate) in the presence of dibutyltin laurate at 70° to give a composition containing a <b>curable</b> composition. Adhesion test was carried out for a mixture of the <b>curable</b> composition 60, ethylene glycol 40, <math>\gamma</math>-methacryloxypropyltrimethoxysilane 2.0, dimethylaminoethyl methacrylate 1.4, 2-hydroxyethyl methacrylate 3.0, camphorquinone 0.7, 4-acryloxyethyltrimellitic acid 3.0, and BHT 0.035 parts.</p>				
IC	ICM A61K006-083				
CC	63-7 (Pharmaceuticals)				
ST	dental adhesive urethane acrylate vinyl monomer acryloxyethyltrimellitic acid				
IT	Dental materials and appliances (adhesives; photopolymerizable dental adhesive compns. containing poly(meth)acrylates and urethane (meth)acrylates and monomers and acryloxyethyltrimellitic acids)				
IT	<p><b>253869-51-1P</b> 253869-53-3P 253869-54-4P            RL: PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)            (photopolymerizable dental adhesive compns. containing poly(meth)acrylates and urethane (meth)acrylates and monomers and acryloxyethyltrimellitic acids)</p>				
IT	<p>9003-42-3 9011-14-7            RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)            (photopolymerizable dental adhesive compns. containing poly(meth)acrylates and urethane (meth)acrylates and monomers and acryloxyethyltrimellitic acids)</p>				
IT	<p><b>253869-51-1P</b>            RL: PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)            (photopolymerizable dental adhesive compns. containing poly(meth)acrylates and urethane (meth)acrylates and monomers and acryloxyethyltrimellitic acids)</p>				
RN	253869-51-1 HCAPLUS				
CN	<p>1,2,4-Benzenetricarboxylic acid, 4-[2-[(1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 1,6-diisocyanatotrimethylhexane, 2-(dimethylamino)ethyl 2-methyl-2-propenoate, 2-hydroxyethyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)</p>				
CM	1				
CRN	88066-33-5				
CMF	C14 H12 O8				



CM 2

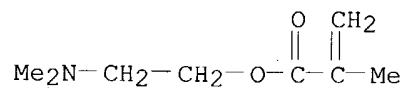
CRN 28679-16-5  
CMF C11 H18 N2 O2  
CCI IDS



3 ( D1-Me )

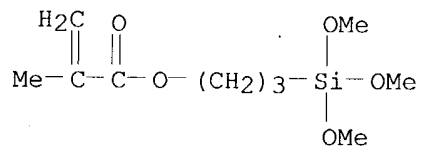
CM 3

CRN 2867-47-2  
CMF C8 H15 N O2



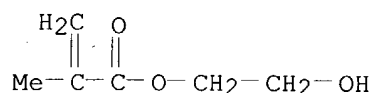
CM 4

CRN 2530-85-0  
CMF C10 H20 O5 Si



CM 5

CRN 868-77-9  
CMF C6 H10 O3



L36 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:724267 HCAPLUS

DN 130:26266

TI Manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica

IN Yanagase, Akira; Ueda, Akifumi; Watanabe, Sachio

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10298265	A2	19981110	JP 1997-113944	19970501
PRAI	JP 1997-113944		19970501		

AB The coatings are manufactured by dispersing hydrolytic polymers of SiR1aR2b(OR3)c (R1, R2 = C1-10 hydrocarbyl; R3 = H, C1-10 hydrocarbyl; a, b = 0-3; c = 1-4; a + b + c = 4) in OH-containing radically-polymerizable vinyl compds. in the presence of colloidal silica [average grain size ( $\phi$ ) 1-100 nm], and reacting the vinyl compds. with polyisocyanates. Thus, heating 120 parts  $\gamma$ -methacryloxypropyltrimethoxysilane at 70° in the presence of 1000 parts Snowtex IPA-ST ( $\phi$  10-20 nm) and HCl, mixing the resulting hydrolytic polymer with 460 parts 2-hydroxyethyl methacrylate, and removing volatiles gave a dispersion, 640 parts of which was combined with 250 parts 2,2,4-trimethylehxamethylene diisocyanate at 70° in the presence of di-Bu dilaurate to give a transparent coating. **Curing** the coating with visible light **irradn** . gave a film showing bending strength 1700 kg/cm2 (for 2-mm-thick specimen; JIS T 6514) and flexural modulus 37,000 kg/cm2.

IC ICM C08G018-67

ICS C08F290-00; C08L075-04; C08L083-04

CC 42-7 (Coatings, Inks, and Related Products)

ST colloidal silica siloxane methacrylate polyurethane coating; transparent acrylic polyurethane coating colloidal silica dispersion; methacryloxypropylmethoxysilane polysiloxane coating colloidal silica

IT Polyurethanes, uses

Polyurethanes, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(acrylic-polysiloxane-; manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

IT Polysiloxanes, uses

Polysiloxanes, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(acrylic-polyurethane-; manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

IT Coating materials

Coating materials

(heat- and impact-resistant, transparent; manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

IT Coating materials  
(transparent, heat- and impact-resistant; manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

IT **216452-72-1P**, 2-Hydroxyethyl methacrylate;  
methacryloyloxypropyltrimethoxysilane;2,2,4-trimethylhexamethylene diisocyanate copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

IT 7631-86-9, Snowtex IPA-ST, uses  
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

IT **216452-72-1P**, 2-Hydroxyethyl methacrylate;  
methacryloyloxypropyltrimethoxysilane;2,2,4-trimethylhexamethylene diisocyanate copolymer  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(manufacture of curable transparent polyurethane coatings containing uniformly dispersed colloidal silica)

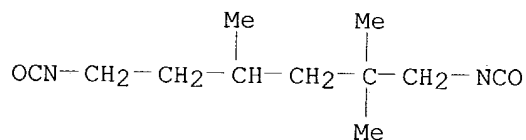
RN 216452-72-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with 1,6-diisocyanato-2,2,4-trimethylhexane and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 16938-22-0

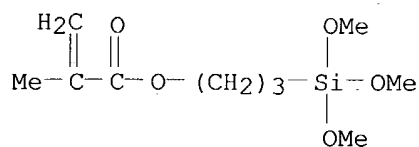
CMF C11 H18 N2 O2



CM 2

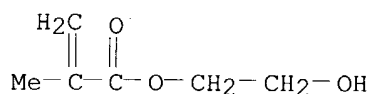
CRN 2530-85-0

CMF C10 H20 O5 Si



CM 3

CRN 868-77-9  
CMF C6 H10 O3



L36 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:107008 HCAPLUS

DN 126:118846

TI Polyurethane (meth)acrylate resins, compositions containing them, and optical fibers using them

IN Kojima, Hiroyuki; Okumi, Chikasuke

PA Sumitomo Electric Industries, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08301959	A2	19961119	JP 1995-109442	19950508
PRAI	JP 1995-109442		19950508		

AB Title resins are prepared from (meth)acryloyl group-containing polyols, e.g., CH<sub>2</sub>:CXCO<sub>2</sub>CH<sub>2</sub>CH(OH)CH<sub>2</sub>OH and/or CH<sub>2</sub>:CXCO<sub>2</sub>CH(CH<sub>2</sub>OH)CH<sub>2</sub>OH (X = H, Me), fluoroalkyl-substituted polyols, e.g., HO[CH[(CH<sub>2</sub>)<sub>k</sub>(OCH<sub>2</sub>)<sub>l</sub>CnF<sub>2m+1</sub>]CH<sub>2</sub>O]<sub>n</sub>H (n = 1-20; k = 1-3; l = 0, 1; m = 1-12; fluoroalkyl may be linear or branched), HO(CH<sub>2</sub>)<sub>i</sub>(CF<sub>2</sub>)<sub>j</sub>(CH<sub>2</sub>)<sub>i</sub>OH (i = 0-2; j = 1-10), and/or CR<sub>1</sub>R<sub>2</sub>(CH<sub>2</sub>OH)<sub>2</sub> (R<sub>1</sub>, R<sub>2</sub> = C<sub>1</sub>-10 perfluoroalkyl) and polyisocyanates. Resin compns. containing them are useful for cladding optical fibers with high NA (numerical aperture), low n, and improved mech. strength. Thus, 2,3-dihydroxypropyl methacrylate 3.2, 1H,1H,2H,3H,3H-perfluoroundecane-1,2-diol 39.5, and 1,3-bis(isocyanatomethyl)cyclohexane 17.4 parts were polymerized to give a polyurethane methacrylate, 99 parts of which was mixed with 1 part 1-hydroxycyclohexyl Ph ketone, applied on a quartz glass rod, and cured to give a plastic-clad optical fiber showing n 1.387 and NA 0.45.

IC ICM C08F299-06

ICS C08G018-50; C08G018-67; G02B006-00; C09D175-16

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 73

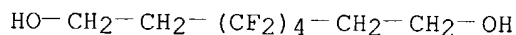
ST polyurethane methacrylate optical fiber cladding; glass fiber plastic cladding; fluoroalkyl polyol polyurethane methacrylate cladding; high numerical aperture optical fiber; perfluoroundecadiol dihydroxypropyl methacrylate polyurethane; bisisocyanatomethylcyclohexane copolymer

- methacrylate optical cladding
- IT Polyurethanes, uses  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (acrylic, fluorine-containing compns.; for optical fiber cladding with high numerical aperture and low refractive index)
- IT Optical fibers  
 (polyurethane (meth)acrylate resins for cladding of)
- IT Acrylic polymers, uses  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polyurethane-, fluorine-containing compns.; for optical fiber cladding with high numerical aperture and low refractive index)
- IT 186043-69-6P, 1,3-Bis(isocyanatomethyl)cyclohexane-2,3-dihydroxypropyl methacrylate-1H,1H,2H,3H,3H-perfluoroundecane-1,2-diol copolymer  
 186043-70-9P 186043-71-0P, 1,3-Bis(isocyanatomethyl)cyclohexane-2,3-dihydroxypropyl acrylate-1H,1H,2H,3H,3H-perfluoroundecane-1,2-diol copolymer 186043-72-1P, 2,3-Dihydroxypropyl methacrylate-hexamethylene diisocyanate-3,3,4,4,5,5,6,6-octafluorooctane-1,8-diol copolymer  
 186043-74-3P, 2,2-Bis(trifluoromethyl)propane-1,3-diol-2,3-dihydroxypropyl methacrylate-hexamethylene diisocyanate copolymer 186043-75-4P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (UV-curable; in polyurethane (meth)acrylate resins for optical fiber cladding with high numerical aperture and low refractive index)
- IT 186043-78-7P 186043-79-8P 186043-80-1P **186043-81-2P**  
 186043-82-3P 186043-84-5P 186043-85-6P  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polyurethane (meth)acrylate resins for optical fiber cladding with high numerical aperture and low refractive index)
- IT 186043-77-6P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (polyurethane (meth)acrylate resins for optical fiber cladding with high numerical aperture and low refractive index)
- IT **186043-81-2P**  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
 (polyurethane (meth)acrylate resins for optical fiber cladding with high numerical aperture and low refractive index)
- RN 186043-81-2 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, 2,3-dihydroxypropyl ester, polymer with 1,6-diisocyanatohexane, ethenylmethoxydimethylsilane, 2-ethyl-2-[[[1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl 2-propenoate and 3,3,4,4,5,5,6,6-octafluoro-1,8-octanediol (9CI) (CA INDEX NAME)

CM 1

CRN 83192-87-4

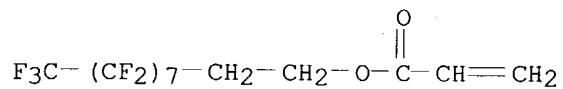
CMF C8 H10 F8 O2



CM 2

CRN 27905-45-9

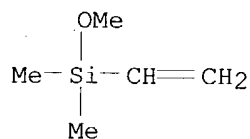
CMF C13 H7 F17 O2



CM 3

CRN 16546-47-7

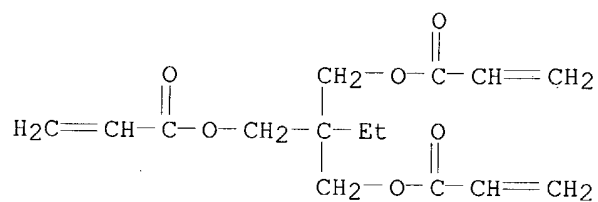
CMF C5 H12 O Si



CM 4

CRN 15625-89-5

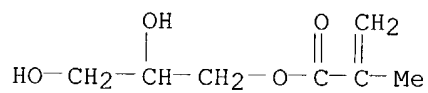
CMF C15 H20 O6



CM 5

CRN 5919-74-4

CMF C7 H12 O4



CM 6

CRN 822-06-0

CMF C8 H12 N2 O2



OCN--(CH<sub>2</sub>)<sub>6</sub>-NCO

L36 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:11499 HCAPLUS

DN 124:119559

TI Optical fibers having a glass core and a sheath prepared from fluorine-containing urethane (meth)acrylates

IN Okumi, Chikasuke; Mishima, Takayuki; Kojima, Hiroyuki; Matoba, Noriko; Nakajima, Saneshiro

PA Sumitomo Electric Industries, Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07278255	A2	19951024	JP 1994-68427	19940406
PRAI	JP 1994-68427		19940406		

AB The title fibers have sheaths prepared by crosslinking urethane (meth)acrylates H<sub>2</sub>C:CHXCO<sub>2</sub>[[CH[(CH<sub>2</sub>)<sub>j</sub>(CH<sub>2</sub>)<sub>m</sub>CnF<sub>2n+1</sub>]CH<sub>2</sub>O]lCONHRNHCO<sub>2</sub>]k[CH[(CH<sub>2</sub>)<sub>l</sub>(CH<sub>2</sub>)<sub>m</sub>CnF<sub>2n+1</sub>]CH<sub>2</sub>O]lCOX:CH<sub>2</sub> [X = H, Me; R = divalent residue of (cyclo)aliphatic or aromatic diisocyanate; j = 0-1; m = 1-2; n = 2-30; l = 2-30;

k = 1-30] to form materials having lower n than the glass. A reaction product of [(perfluorododecyl)methyl]oxirane and HOCH<sub>2</sub>CH(OH)CH<sub>2</sub>(CF<sub>2</sub>)<sub>11</sub>CF<sub>3</sub> was reacted with OCN(CH<sub>2</sub>)<sub>4</sub>NCO and H<sub>2</sub>C:CHCOCl, and the resulting urethane acrylate was mixed with H<sub>2</sub>C:CHCO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>(CF<sub>2</sub>)<sub>7</sub>CF<sub>3</sub>, H<sub>2</sub>C:CHCO<sub>2</sub>CH[CH<sub>2</sub>(CF<sub>2</sub>)<sub>7</sub>CF<sub>3</sub>]CH<sub>2</sub>O<sub>2</sub>CCH:CH<sub>2</sub>, H<sub>2</sub>C:CHSiMe<sub>2</sub>OEt, and Ph 1-hydroxycyclohexyl ketone, coated onto a quartz fiber, and **cured** in **UV** light to give a sheath (n = 1.365).

IC ICM C08G018-67

ICS C08F299-06; C08G018-48; C09D175-16; G02B006-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42, 73

ST fluoro urethane acrylate sheath optical fiber; glass optical fiber sheath urethane acrylate; refractive index sheath optical fiber; photocrosslinking urethane acrylate sheath optical fiber; crosslinking urethane acrylate sheath optical fiber

IT Refractive index and Optical refraction

(of photocured fluorine-containing urethane acrylates as sheaths on glass cores in preparation of optical fibers with good optical coupling factor)

IT Optical fibers

(photocured fluorine-containing urethane acrylates as sheaths on glass cores in preparation of optical fibers with good optical coupling factor)

IT Urethane polymers, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(fluorine-containing, acrylate-terminated, photocured sheaths on glass cores in preparation of optical fibers with good optical coupling factor)

IT Crosslinking

(photochem., of fluorine-containing urethane acrylates as sheaths on glass cores in preparation of optical fibers)

IT Fluoropolymers

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyurethane-, acrylate-terminated, photocured sheaths on glass cores in preparation of optical fibers with good optical coupling factor)

IT 14808-60-7, Quartz, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photocured fluorine-containing urethane acrylates as sheaths on optical fibers having cores of)

IT 173142-62-6P 173142-64-8P 173142-66-0P 173142-68-2P  
 173142-70-6P 173142-72-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photocured sheaths on glass cores in preparation of optical fibers with good optical coupling factor)

IT 173142-62-6P 173142-64-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (photocured sheaths on glass cores in preparation of optical fibers with good optical coupling factor)

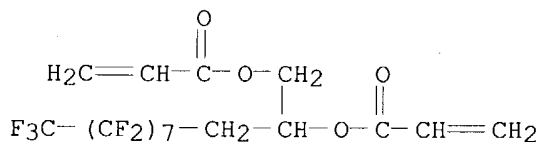
RN 173142-62-6 HCAPLUS

CN 2-Propenoic acid, 1-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononyl)-1,2-ethanediyl ester, polymer with 1,4-diisocyanatobutane polymer with (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13-pentacosafuorotridecyl)oxirane di-2-propenoate, ethenylethoxydimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 147187-58-4

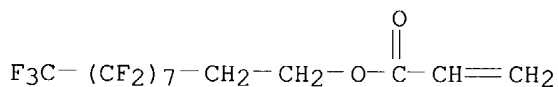
CMF C17 H11 F17 O4



CM 2

CRN 27905-45-9

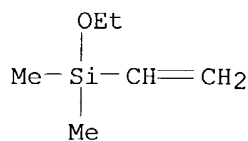
CMF C13 H7 F17 O2



CM 3

CRN 5356-83-2

CMF C6 H14 O Si



CM 4

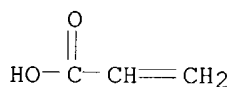
CRN 173142-61-5

CMF (C15 H5 F25 O . C6 H8 N2 O2)x . 2 C3 H4 O2

CM 5

CRN 79-10-7

CMF C3 H4 O2



CM 6

CRN 172992-64-2

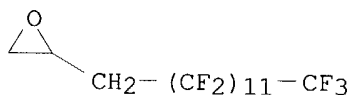
CMF (C15 H5 F25 O . C6 H8 N2 O2)x

CCI PMS

CM 7

CRN 94158-66-4

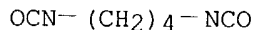
CMF C15 H5 F25 O



CM 8

CRN 4538-37-8

CMF C6 H8 N2 O2



RN 173142-64-8 HCAPLUS

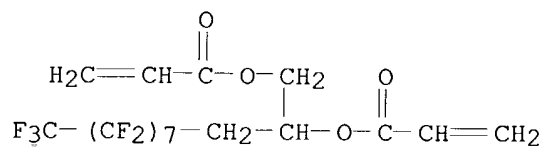
CN 2-Propenoic acid, 1-(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptafluorononyl)-1,2-ethanediyl ester, polymer with 1,6-diisocyanatohexane polymer with [(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)oxy]methyl]oxirane bis(2-methyl-2-propenoate), ethenylethoxydimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-

heptadecafluorodecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 147187-58-4

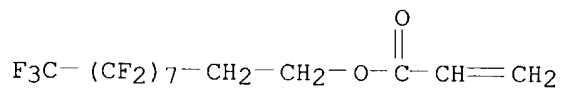
CMF C17 H11 F17 O4



CM 2

CRN 27905-45-9

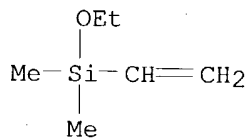
CMF C13 H7 F17 O2



CM 3

CRN 5356-83-2

CMF C6 H14 O Si



CM 4

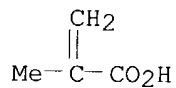
CRN 173142-63-7

CMF (C11 H9 F13 O2 . C8 H12 N2 O2)x . 2 C4 H6 O2

CM 5

CRN 79-41-4

CMF C4 H6 O2

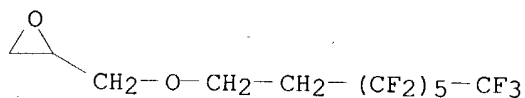


CM 6

CRN 172992-65-3  
 CMF (C11 H9 F13 O2 . C8 H12 N2 O2)x  
 CCI PMS

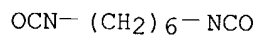
CM 7

CRN 122193-68-4  
 CMF C11 H9 F13 O2



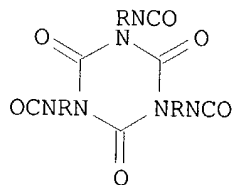
CM 8

CRN 822-06-0  
 CMF C8 H12 N2 O2



L36 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:374642 HCAPLUS  
 DN 122:136246  
 TI Active energy beam-curable resin compositions for hard coats with good  
 abrasion resistance and surface smoothness  
 IN Kishimoto, Yoshinori  
 PA Daiseru Yuu Shii Bii Kk, Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06157696	A2	19940607	JP 1992-353794	19921127
	JP 3157321	B2	20010416		
PRAI	JP 1992-353794		19921127		
GI					



I

AB The title compns. contain (A) [(CH<sub>2</sub>:CR<sub>2</sub>CO<sub>2</sub>)nR<sub>1</sub>X]<sub>2</sub>R<sub>3</sub> (n = 3-5; R<sub>1</sub> = C<sub>5</sub>-10 alc. residue; R<sub>2</sub> = H, Me; R<sub>3</sub> = organic isocyanate residue; X = urethane bond), (B) (CH<sub>2</sub>:CR<sub>2</sub>CO<sub>2</sub>)nR<sub>1</sub> (R<sub>1</sub> = C<sub>5</sub>-10 alc. residue; R<sub>2</sub> = H, Me; n = 3-6), and (C) polyfunctional urethane acrylates obtained by reacting (CH<sub>2</sub>:CR<sub>2</sub>CO<sub>2</sub>)nR<sub>1</sub> (R<sub>1</sub> = C<sub>5</sub>-10 alc. residue with ≥1 OH group; R<sub>2</sub> = H, Me; n = 3-5) with isocyanate-terminated prepolymers obtained by reacting 1 mol dimethylsiloxane diol H(OCHRCH<sub>2</sub>)m<sub>1</sub>(SiMe<sub>2</sub>O)nSiMe<sub>2</sub>(CH<sub>2</sub>CHRO)m<sub>2</sub>OH (n = 10-25; m<sub>1</sub>, m<sub>2</sub> = 0-5; R = H, Me) and 2 mol organic isocyanates I (R = C<sub>1</sub>-10 alkylene, phenylene), at A:B = 40-60:60-40 and (A + B):C = 100:0.1-10. A composition from IPDI-pentaerythritol triacrylate adduct 100, adduct of IPDI, H(OCH<sub>2</sub>CH<sub>2</sub>)<sub>3</sub>(SiMe<sub>2</sub>O)<sub>22</sub>SiMe<sub>2</sub>(CH<sub>2</sub>CH<sub>2</sub>O)<sub>3</sub>H, and pentaerythritol triacrylate 2.5, and Irgacure 500 4 parts gave a **UV-cured** coating on a PET film.

IC ICM C08F299-08  
ICS C08L033-00; C09D004-00; C09D005-00; C09D175-16

CC 42-10 (Coatings, Inks, and Related Products)

ST polyisocyanurate polyurethane siloxane photocurable coating

IT Coating materials  
(photocurable, active energy beam-curable resin compns. for hard coats with good abrasion resistance and surface smoothness)

IT Siloxanes and Silicones, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurethane-, active energy beam-curable resin compns. for hard coats with good abrasion resistance and surface smoothness)

IT Urethane polymers, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(siloxane-, active energy beam-curable resin compns. for hard coats with good abrasion resistance and surface smoothness)

IT 161110-70-9 **161110-71-0** 161110-72-1 161110-73-2  
RL: TEM (Technical or engineered material use); USES (Uses)  
(active energy beam-curable resin compns. for hard coats with good abrasion resistance and surface smoothness)

IT **161110-71-0**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(active energy beam-curable resin compns. for hard coats with good abrasion resistance and surface smoothness)

RN 161110-71-0 HCAPLUS

CN 2-Propenoic acid, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 1,6-diisocyanatohexane, α-[[[2-[2-(2-hydroxyethoxy)ethoxy]ethyl]dimethylsilyl]-ω-[[[2-[2-(2-hydroxyethoxy)ethoxy]ethyl]dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

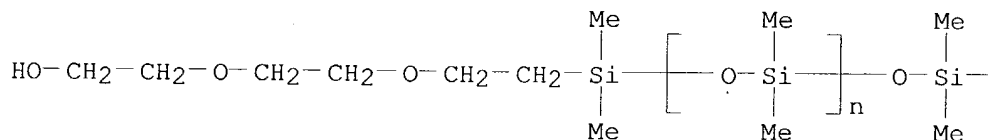
CM 1

CRN 161110-69-6

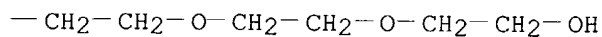
CMF (C<sub>2</sub> H<sub>6</sub> O Si)<sub>n</sub> C<sub>16</sub> H<sub>38</sub> O<sub>7</sub> Si<sub>2</sub>

CCI PMS

PAGE 1-A



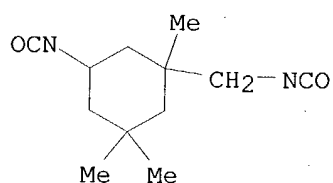
PAGE 1-B



CM 2

CRN 4098-71-9

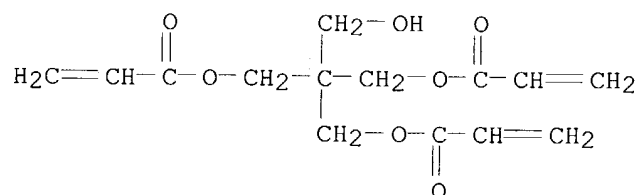
CMF C12 H18 N2 O2



CM 3

CRN 3524-68-3

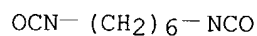
CMF C14 H18 O7



CM 4

CRN 822-06-0

CMF C8 H12 N2 O2



L36 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:43153 HCAPLUS

DN 116:43153

TI Acrylic polymer coating compositions for transparent plastics

IN Takeshita, Katsuyoshi; Nakajima, Mikito; Kasai, Yoshihiko; Egawa, Masaru; Aozai, Fumito; Fukushima, Hiroshi; Suda, Eriko; Motonaga, Akira

PA Seiko Epson Corp., Japan; Mitsubishi Rayon Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03014880	A2	19910123	JP 1989-150084	19890613
PRAI	JP 1989-150084		19890613		

AB The title compns., giving **cured** films with good colorability and adhesion to inorg. films, contain polyfunctional (meth)acrylates or prepolymers 5-30, urethane (meth)acrylates 5-30, SiO<sub>2</sub> (particle size 1-100 nm 14-60, and polymerizable silanes 25-70%. Thus, a mixture of dipentaerythritol hexaacrylate 15, trimethylolpropane triacrylate 15, diethylene glycol diacrylate 10, tetrahydrofurfuryl acrylate 5, glycidyl acrylate 5, xylylene diisocyanate 2-hydroxypropyl methacrylate urethane (1:2) 25, SiO<sub>2</sub> 147, (trimethoxysilyl)propyl methacrylate 78, 0.05N HCl 20.5, and stabilizers 2.9 g was coated on a polycarbonate lens, dried, **irradiated** with a UV lamp, and baked at 130° for 90 min to give a .apprx.2-μm **cured** film with good appearance, colorability, and adhesion to a SiO<sub>2</sub>-ZrO<sub>2</sub> topcoat.

IC ICM C09D004-00

ICS C09D004-00

ICA C08F002-44

CC 42-7 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38

ST acrylic polymer coating plastic; lens polycarbonate coating transparent; acrylate polyol copolymer coating; silane deriv methacrylate coating; urethane dimethacrylate copolymer coating; photocurable coating plastic lens

IT Polycarbonates, uses

RL: USES (Uses)

(lenses, abrasion-resistant acrylic polymer coatings for)

IT Lenses

(plastic, abrasion-resistant acrylic polymer coatings for)

IT Coating materials

(abrasion-resistant, transparent, photocurable acrylic polymers, for transparent plastics)

IT 9011-14-7, Acrypet VH

RL: USES (Uses)

(coatings for, abrasion-resistant and transparent)

IT 136793-37-8 136974-23-7 **138456-05-0**

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, photocurable and abrasion-resistant, for transparent plastics)

IT 7631-86-9, Silica, uses

RL: USES (Uses)

(colloidal, coatings, photocurable and abrasion-resistant, for transparent plastics)

IT **138456-05-0**

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, photocurable and abrasion-resistant, for transparent plastics)

RN 138456-05-0 HCAPLUS

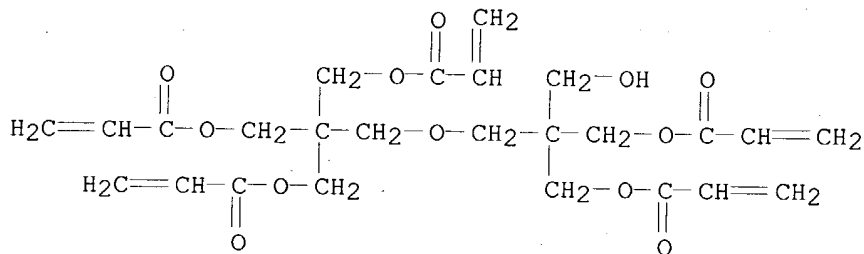
CN 2-Propenoic acid, tetraester with 2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-propanediol], polymer with 1,3-bis(1-isocyanato-1-methylethyl)benzene, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate, 2-[[[3-hydroxy-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-



propanediyl di-2-propenoate, 2-hydroxypropyl 2-propenoate,  
2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-  
propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-  
propanediyl di-2-propenoate, (tetrahydro-2-furanyl)methyl 2-propenoate and  
trimethoxy[3-(oxiranylmethoxy)propyl]silane (9CI) (CA INDEX NAME)

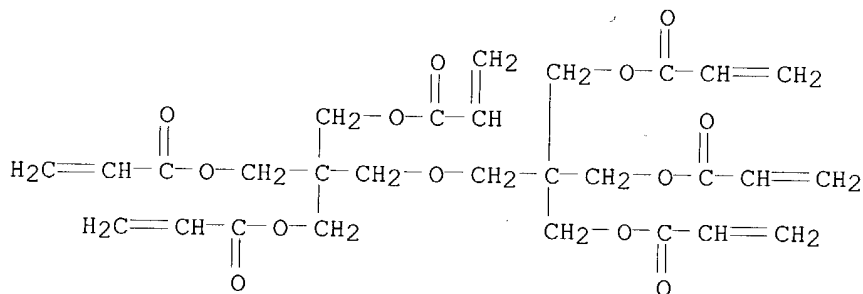
CM 1

CRN 60506-81-2  
CMF C25 H32 O12



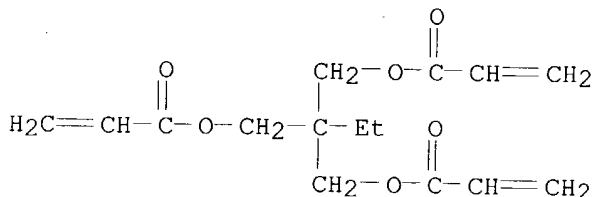
CM 2

CRN 29570-58-9  
CMF C28 H34 O13



CM 3

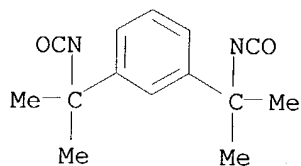
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CMF C15 H20 O6



CM 4

CRN 2778-42-9

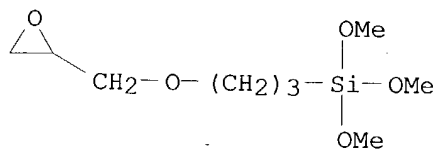
CMF C14 H16 N2 O2



CM 5

CRN 2530-83-8

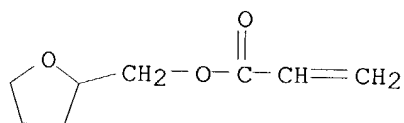
CMF C9 H20 O5 Si



CM 6

CRN 2399-48-6

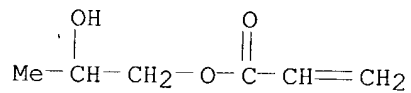
CMF C8 H12 O3



CM 7

CRN 999-61-1

CMF C6 H10 O3



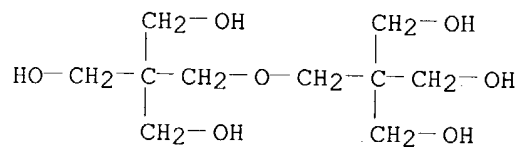
CM 8

CRN 63971-15-3

CMF C22 H30 O11  
CCI IDS

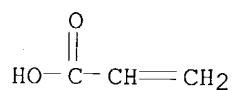
CM 9

CRN 126-58-9  
CMF C10 H22 O7



CM 10

CRN 79-10-7  
CMF C3 H4 O2



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